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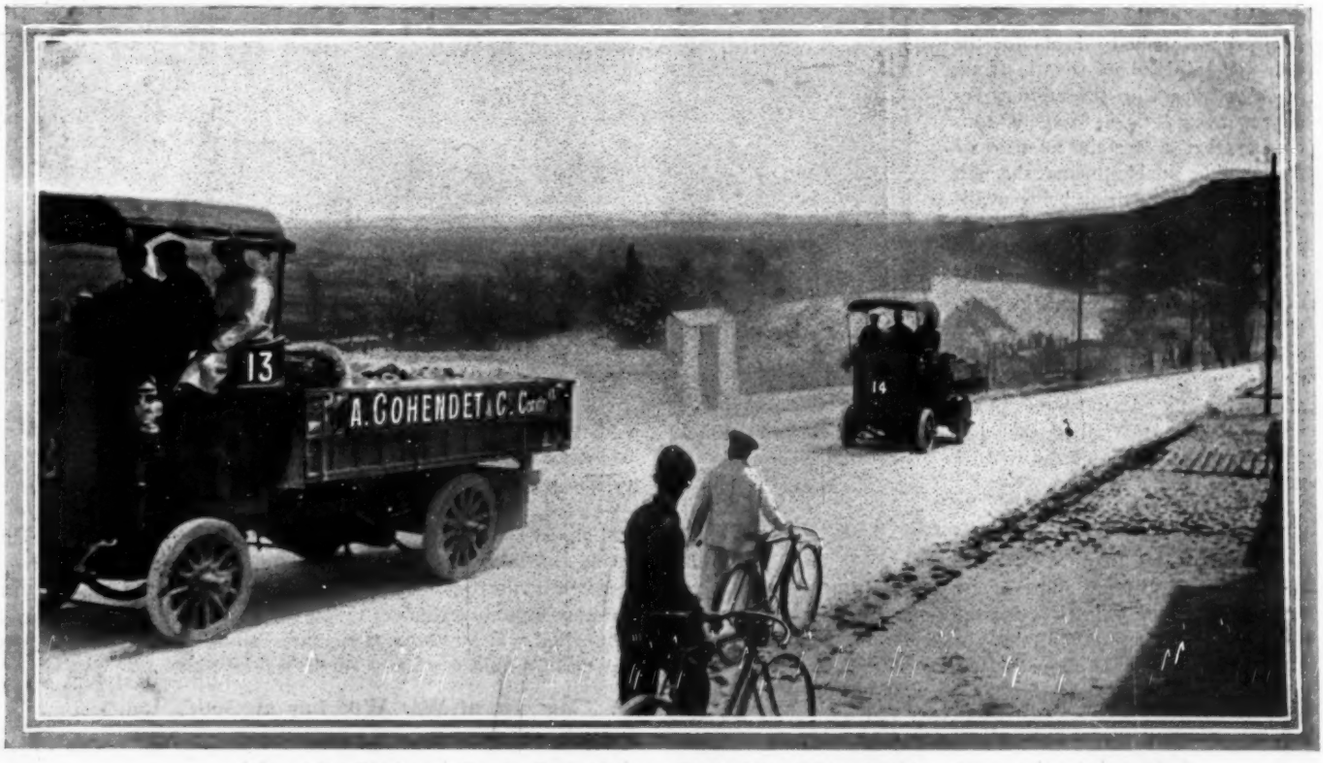
THE AUTOMOBILE

ALCOHOL FUEL IN FRENCH INDUSTRIAL VEHICLE TOUR

BY W. F. BRADLEY.

PARIS, May 15.—The military element is strong in the industrial vehicle competition, which the Automobile Club of France has put on foot for the fourth year in succession, and which is now being carried out in the north of France. After a couple of days for weighing in and sealing of parts, Sunday was spent in the Galerie des Machines under the gaze of a numerous public. Promptly at 7 o'clock each team was admitted, at intervals of five minutes, to enter the enclosure and take out a vehicle, running time being counted from the moment the order was given to enter the parking place. A stop of one minute at the gate of the big hall to allow the military officer to throw up his meager baggage and climb on board, and the car was off for its month's journey.

In addition to covering 1,885 or 2,488 miles, according to the type of vehicle, each competitor must make every control on time, must change none but the parts allowed by the committee, and must finally submit to a fuel test for final classification. There is nothing in the nature of a pleasure excursion in this competition, the vehicles being required to carry their full load for one month, a condition never demanded in actual work, and to make their controls with perfect regularity, speeding to gain time as a reserve for a breakdown being impossible, owing to numerous sub-controls on each of the stages. An innovation in competitions of this nature is that the changing of tires, rims, or wheels is forbidden. Pneumatics are not allowed except in the cab section, and for those vehicles desiring to compete for the military prizes, or to be bought by the army at the end of the competition, the rear wheels must be shod with steel.



Two of the Ponderous Trucks Proceeding on Their Official Way Over the Course Near Bonnieres.

Gasoline is the fuel used by all the trucks, but all those competing for the army prizes must be capable of running on alcohol, and must, on the last stage of the journey, cover a distance of approximately 100 miles with this fuel. The club regulations under which all cars finishing the regularity test must submit to a final fuel test, leaves the choice of fuel to the individual constructor, on condition that he makes known his choice fifteen days in advance.

Vehicles Must be Capable of Service Without Rubber Tires.

Compared with previous years, the thirty-four trucks and eleven cabs taking part in the two competitions are a specially

good set. There are practically no cases of touring car chassis fitted with special bodies and strengthened in a few features, but in almost every case the vehicles are specially designed and studied for the work they have to perform. One of the most significant features of the competition is that neither wheels nor tires can be changed, and that, to meet the military requirements, the rear wheels must be steel shod. For the commercial vehicle to become a serious factor in the field which it seeks to occupy, it is imperative that the hitherto enormous expense attending the use of pneumatic or rubber tires must be reduced in no small proportion. In previous competitions, wheels and tires have been the weakest point in all the vehicles, the number of those showing economical results in these two features being very small. The new regulation has had as a first result the more serious attention to suspension. Not only are the springs better adapted to the work they have to perform, but they are on 90 per cent. of the vehicles supplemented with hydraulic or other types of shock absorbers, fitted with grease caps, and have all joints that are securely protected by good leather casing.

For the three lower categories in the light-weight class, the maximum load of which is 3,300 pounds, solid tires front and rear are invariably employed. A couple of tricars for quick delivery service, fitted with a special type of cushion tire cannot be considered as an exception. Where loads of more than 3,300 pounds are carried, the majority of the competitors have adopted metal-shod wheels for the rear and solid rubber tires in front, in accordance with the military requirements. It is a foregone conclusion that a certain number of these will be unable to come through the test, the suspension being manifestly inadequate for steel rims. An insignificant proportion have ignored the military conditions and fitted solid rubber tires in the rear. In consequence of the general use of steel tires, a large proportion of the competitors in the heavier classes have fitted sand boxes automatically laying a trail of sand before the rear wheels at the will of the driver.

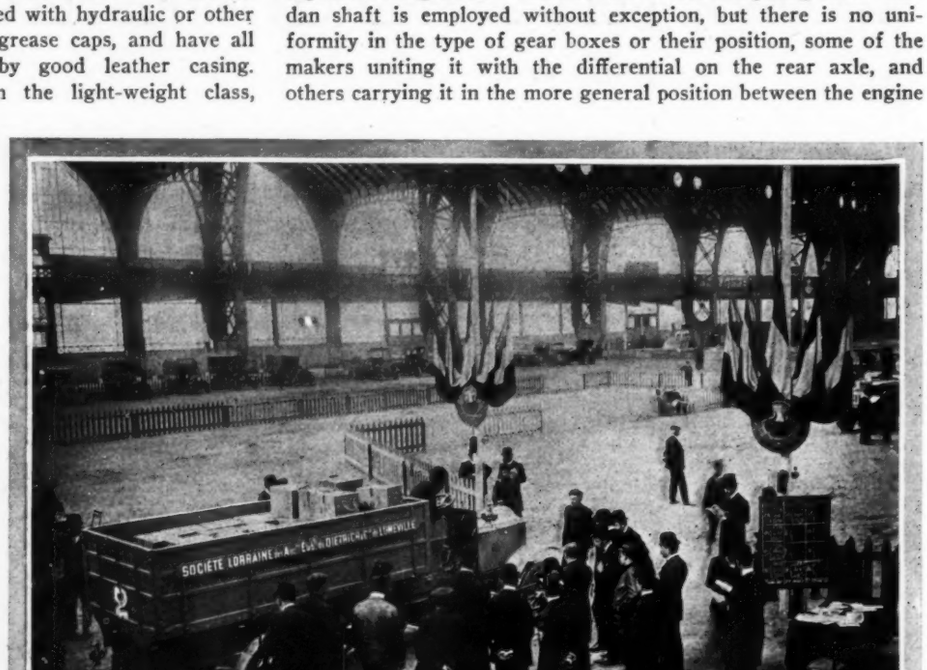
In the two classes of passenger vehicles, the lower one, with provision for 6 to 10, and the higher for more than 10 persons, excluding the driver, solid rubber tires both front and rear are found on every vehicle, one or two employing twin tires for the rear.

Mechanically considered, there is a certain similarity in the French vehicles engaged in the trials. There are all the differences one would expect to find among a group of vehicles varying from one-lungers of 3.3 by 3.5 bore and stroke to powerful four-cylinder of 5.6 square; but general lines of construction are observed throughout the different classes. There is not a single steamer in the competition, the only two firms of importance in France devoted to this class of automobile having refused to engage cars. Without exception, the engines are vertical and water-cooled, the pump being employed on all but a three-ton Berliet and Cohendet. Ignition by high-tension magneto is in the majority, the low-tension type being employed on not more than 20 per cent. of the cars. Transmission in all cases is by sliding gear, but clutch and drive show a diversity of systems.

Though final drive by side chains is general in the heavier vehicles, there are a small number of vehicles with cardan shaft and double rear axle of the De Dion type. Direct drive on both third and fourth speed is reserved to the numerous Berliet vehicles. Panhard and Saurer, the Swiss commercial vehicle constructor, use the engine for braking by means of a camshaft movable at will.

Taxicabs to Cover 2,500 Miles on Alcohol Only.

Particular interest attaches to the taxicabs from the fact that it is the first time vehicles of this nature have been put to a severe public test, and also on account of the use of alcohol as fuel for a journey of nearly 2,500 miles. There are five 4-cylinder engines, the average dimensions of which are 2.9 by 4.7 bore and stroke; three 2-cylinder cars and a solitary one-lunger. Excepting a couple of Brasiers, all the cabs have high tension-magneto only, storage batteries not being carried. Thermo-syphon and mechanical water circulation are in the proportion of six to five. The classic leather face cone clutch is supreme, being fitted to all but one of the competing cars. Cardan shaft is employed without exception, but there is no uniformity in the type of gear boxes or their position, some of the makers uniting it with the differential on the rear axle, and others carrying it in the more general position between the engine and the shaft. With tires, and complete with closed body, lanterns, and all accessories, the price of the taxicabs varies from $1,200 for the 9-horsepower one-lunger to $1,700 for the 12-horsepower four-cylinder Vinot. Bayard-Clement turns out a two-cylinder at $1,200 complete, and two other firms with a good reputation produce a four-cylinder cab at $1,600.



Where Cars Were Weighed In, Sealed, and Started on Their Long Journey.

Minister of War Will Buy at Tour's Conclusion.

The Minister of War has sent an official delegation to follow the vehicles in their wanderings, and has announced his intention of buying some of the most successful automobiles at the end of the competition, in accordance with a now well-established practice. The Russian military department has also sent an official delegation and will purchase thirty trucks for army transport service.

The order of travel has been modeled somewhat on the lines of that adopted in the very successful English commercial vehicle trials of last year. Starting from Paris, the procession will first make its way to Rouen, two different routes being adopted, a shorter one for the slow-moving wagons, and a more circuitous one for the fast-moving vehicles. Rouen, Amiens, Lille, Reims, Nancy and Dijon, all being towns of considerable commercial importance, will be encircled by the competing vehicles in such

a way that the cars will pass from two to four nights in these centers and give the inhabitants an opportunity of closely inspecting them. Throughout the month's run the slow vehicles will shortly be given the shortest distance from point to point, but the meeting place every evening will be the same for all.

Types That Are Engaged in Competition.

Only one of the classes provided by the technical committee failed to draw entries, that for automobile trains of the Renard type in France, and the Alden-Sampson in America. In the light class reserved to vehicles carrying from 110 to 440 pounds the three entries consist of a couple of Contal tricars and a Werner light delivery vehicle. Panhard and Peugeot are alone with one vehicle each in the second category, while the third class is limited to three cars supplied by Panhard, Brouhot, and Dietrich. A better show is made in the 3,300 to 4,400 pound class, where there are two Berliets, two Peugeots, a De Dion and a Vinot. In the fifth class for vehicles carrying a load of 4,400 to 6,600 pounds, Berliet again has two vehicles, and Saurer, Panhard, and De Dion one each. There is the best representation in the sixth class for trucks transporting loads of more than three tons, the entries being two front-drive Latil trucks, two Cohendets, two De Dions, two Berliets, a Dietrich, a Saurer, and an Espine, Achard & Co.

Two classes are provided for light omnibuses intended to be used for hotel service, for holiday resorts, or for surface car feeders, where the number of passengers will be relatively small and rate of travel high. Six vehicles capable of carrying from six to ten passengers are supplied by Berliet, Peugeot, De Dion and Dietrich. The last class for omnibus carrying more than ten passengers has united but two engagements, one from Dietrich, the other from Saurer.

Chief Interest in Taxicab Section.

Undoubtedly the chief interest of the test lies in the taxicab section organized for the first time in France. In adopting alcohol as the fuel for these small vehicles the organizers have doubtless had in view local conditions, alcohol being slightly more advantageous in the city of Paris than gasoline, owing to the town duty on the latter.

Two cab classes are provided, one for small vehicles with a single-cylinder engine of not more than 3.9 inch bore and a minimum weight of 2,200 pounds, and the other for four-cylinder engines of 3.1 inch bore weighing 3,300 pounds. The former are intended to carry two passengers only, without baggage, and to prove a direct rival of the light horse cabs of Paris. In the larger class four passengers have to be provided for and some space given for baggage, this section being intended to encourage cabs for railroad and hotel work, with passengers always accompanied by a certain amount of baggage.

All essential parts of the cars were sealed before leaving Paris, so that no parts can be changed without the knowledge of the official observer on board. Each night vehicles will be stored in a closed garage or open park protected by the police or troops, so that no changes can be made surreptitiously, and at the end of the run, just before entering Paris again, a fuel consumption test will be held.

EFFECT OF SHADE TREES ON FRENCH ROADS.

In answer to inquiries from the United States, Consul-General Robert P. Skinner, of Marseille, furnishes the following information relative to the effect of wayside trees on French roads:

"It is proposed to plant trees along the roadsides of New York State in order to keep the moisture in the road and prevent raveling, and the question has been raised whether or not the roots of such trees may spread out underneath the road surface, and eventually create great damage in a severe climate where there are extremes of heat and cold. While French roads are not always bordered with shade trees, they are so very frequently, and my information is that the trees are planted not only for furnishing shade, but in order to protect the roads themselves against the effects of excessive heat and drought. It is believed that the long, dry summer season is much more inimical to roads than severe cold. The chief officer in charge of the public roads in Marseille is of the opinion that, on the whole, New York roads would be benefited if bordered with trees, suggesting, however, that only such should be planted as have vertically descending roots."

Brouhot Taxicab on the Road Near d'Abbeyville.

FLYERS DO NOT LIKE ENTRY FEE TAX.

PARIS, May 15.—Aeronauts are not pleased at being obliged to pay an entry fee of $10 twenty-four hours in advance of each attempt to win one of the many flying prizes. If the prize is won the fee is returned, but if for any cause whatever the aeronaut falls short the money is retained. Delagrange, Farman and others ask that when rain, wind, or other natural causes prevent a flight, the engagement fee should be returned.

Berliet Omnibus Completing Its Road Test.

PARIS BOULEVARD PROVES ROAD-WEARING ECONOMY OF AUTO

PARIS, May 14.—It is doubtful if Paris possesses more automobiles than New York or London, but there is no doubt whatever that the western portions of the French capital have a more intense automobile circulation than any city in the world. It was hardly necessary to search for official figures to be convinced that in the richer residential quarters of the city automobiles are almost as numerous as horse-drawn vehicles. But the Paris police have gone into the subject, and have compiled an official table, the accuracy of which cannot be doubted, showing to what extent traffic has increased since 1881, and what proportion the automobile holds in street circulation. It will be seen that the proportion is nearly equal.

The Imposing Arc de Triomphe.

At four different spots in the city policemen were stationed from 3 to 7 in the afternoon of seven consecutive days with a mission to count the number of vehicles passing their post. On a Saturday afternoon in February the following figures were obtained in the Avenue des Champs-Elysées, the main artery of Paris, and one forbidden to surface cars and heavy commercial vehicles, so that the statistics refer particularly to pleasure cars:

Automobiles	3,430
Various horse vehicles	3,695
Automobile 'buses	34
Horse 'buses	81
Total	7,240

Horses are thus still in a majority, even in the most favored quarter of Paris, though the difference is so small that it is safe to prophesy a change in favor of the automobile at no distant date. The figures were not taken at a time when automobile traction is at its greatest intensity, a cold, damp Saturday afternoon in February not being the day when the maximum of pleasure vehicles are on the streets. Had the census being taken in early June, when Paris is invaded by its thousands of pleasure-seeking visitors, there is no doubt that the horse would have shown a decided minority.

Owing to the intense automobile traffic of the Champs-Elysées, the Paris Police a year ago issued a new regulation, dividing the four-footed traction from the horseless variety. The Champs-Elysées is divided into three distinct channels by reason of a double row of electric light standards and refuges at frequent intervals. The central avenue, between the refuges, is now reserved exclusively to both up and down-going automobiles, the two sides are sacred to the horse, the bicycle, the push cart and other slow modes of locomotion, one side being for up and the other for down traffic.

How the Traffic Is Regulated on the Champs-Elysées.

More benefits have accrued from the innovation than were ever thought possible by Prefect of Police Lepine. The pleasure of driving in an avenue from which all slower modes of traffic are barred can only be fully realized by those who have attempted to wade their tortuous way through the miscellaneous and crowded streets of the city and have then entered into the automobile row of the Champs-Elysées. A very much higher speed is maintained than is possible on the two side sections, yet accidents are fewer than among the horses, and the congestion of the avenue is considerably relieved.

A unique comparison is made possible in the wear on roadway under horse and automobile traffic. For twelve months horses have had exclusive use of the two sides of the wood-paved Champs-Elysées, and for the same period the automobile has run up and down the central channel. The only apparent change in this latter is that from a dark brown color it has changed to black. The horse section, on the other hand, has retained its primitive color, but has sunk irregularly and become pitted in a thousand places under the influence of steel-shod hoofs. No better example could be found of the economy in road wear possible by the use of the automobile. The municipality of Paris would do well to divide the macadam-built Avenue du Bois de Boulogne in the same way, in order to prove whether the results on wood would be the same on macadam.

A striking feature of the automobile section of the Champs-Elysées is that the road is not blackened equally, but in two broad lines, the right-hand or up section being very much darker than the down line. The reason for this is doubtless that the avenue is on a slight grade, and drivers of cars generally accelerate and give a little more oil than when running on the level. On the down side the engines are run with very little gas and the minimum of oil, and there is also rather less friction at the wheels. The difference between the two sides is so great as to immediately arrest the attention of anyone seeing it for the first time.

According to official returns, there are 40,000 autos in use in the whole of France, 7,670 belonging to Paris and the Department of the Seine. In this case, however, official figures are misleading, the actual number being very close to 10,000. The large companies possess 1,550 automobile taxicabs, small liverymen are responsible for 398 of the same class of vehicle, the private automobiles in use in the city are generally estimated at 7,000, thus giving a total of 9,835. This does not take into consideration the auto-buses run by the municipality, and now numbering about 100, nor the commercial automobiles.

A Fine Macadam Stretch and a Good Illustration of the Scenic Connecticut Country Traversed in the Endurance Run.

CONNECTICUT ENDURANCE RUN HAD PERFECT SCORES

HARTFORD, CONN., May 16.—The initial endurance run of the Automobile Club of Hartford was a most successful consummation, viewed from every standpoint. It is doubtful if ever a club committee worked harder for the good of a common cause. Other cities than Hartford were well represented—even Massachusetts sent down a few cars.

All day long, and to-night, in the immediate vicinity of the club quarters in the Allyn House, there were muffled roars of occasional cars running in without a muffler or making use of the cut-out, which, by the way, is not as yet a serious offense in the capital city of the Nutmeg State. Positions in the event were drawn for on Thursday evening. Friday bespoke of rain, but to-day was ushered in with blue sky and sunshine. Long before the time for the official start, the cars lined up along Trumbull street, and as the whistles tooted the advent of another working day the first car went its way amid a din of applause. The remaining cars were sent away at two-minute intervals, and they literally had to pass down a long lane of spectators to the turning point at Trumbull street, where the local police kept the road clear.

Who They Were and How They Got Away.

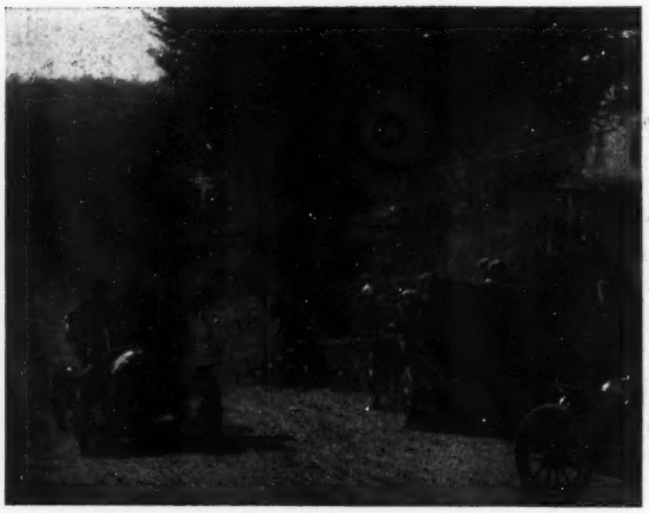
To Robert R. Ashwell, in a Franklin, went the distinction of being No. 1, and to Philip Corbin, Jr., went position No. 2, his car being a little air-cooled Corbin. Joe Matson was third, in another car of the same make, and Louis Elmer crossed the line in a little Ford four-cylinder runabout. Pete Robinson, in a six-cylinder Stevens-Duryea, was fifth, and R. L. Lockwood was the next to get away in the 18-horsepower Reo runabout. Harry Tuttle, of New Haven, was next in line, with a 15-horsepower Stoddard-Dayton runabout.

V. A. Charles, the Bostonian from the Rambler branch "along the row," was next in a 32-horsepower Rambler. F. E. Bowers, of New Haven, started tenth, in another Rambler runabout of 40-horsepower, and he was followed by still another car of the same make, driven by Harry Turrell, of Waterbury. S. A. Miner, the local Knox representative, was the next to start, and was followed by his son, Bob, in the little two-cylinder Buick, and the junior member of the family was somewhat wary for the reason that he drove under No. 13. As a matter of course, he carried a horseshoe over the muffler, also the number "13" in large nickel letters. A. Lazarro, Jr., started fourteenth, in the three-cylinder Compound, followed by C. M. Wright, in the Stoddard-Dayton.

F. W. Dart, a member of the contest committee, was the next starter, and, in order that he might participate with a free conscience, he resigned two days before the contest. To him went one of the hardest pieces of luck of the entire day, for just as he received the word go he accidentally stalled his motor. The car had barely passed over the line, but was penalized one point. He drove a 48-horsepower Thomas Flyer, and carried about the largest number of passengers of any car in the run, and lost not a point throughout the contest thereafter.

The 22-horsepower Overland was the next starter, driven by the local agent, A. W. Peard. S. W. Hancock was another of the Bay Staters who journeyed down to Connecticut looking for glory, and he got it, as later statements prove. G. W. Bennett, of the New York White branch, was the next, with a White steamer. He went his way in good order, made a good showing along the road to the next control, but was penalized for arrival ahead of schedule time. Frank Dunnell, another New Yorker, followed the departed ones in a Ford "Six," followed in turn by B. F. Smith, the local representative of the Mitchell, in a 35-horsepower car of that make. S. E. Campbell, of New Haven, another of the Rambler contingent, faced the starter, and, at the word "go," drove peacefully along the way to a good score.

Hal K. Sheridan, who was regarded as one of the likeliest in the contest, was next in order in the White steamer, but Hal, through no fault of his own, was a victim of fate, like many another, before the day was done. Harold Green was next in order, with D. J. Post's Pope-Hartford, followed by Ariel Mictelson, in a four-cylinder Cadillac, another victim of fate. Dean Rankin drove A. E. Bradley's Peerless runabout, followed by C. P. Hulst, in an Oldsmobile of 36-horsepower. T. F. Garvan came next, in another 30-horsepower Pope-Hartford. J. F. Corbett, of New Britain, was next, in a Corbin of 24-horsepower. J. W. Lynch drove a 30-horsepower Knox, followed two minutes later by Stanley Goss, of New Britain, in a



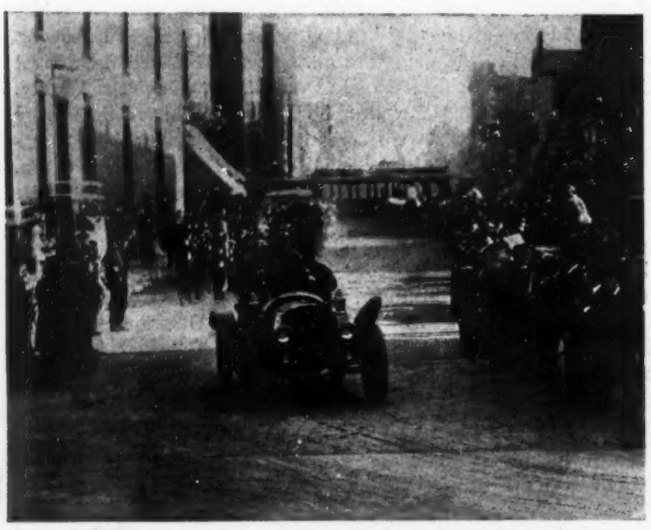
Two-cycle Atlas Nearing Top of Plymouth Hill.

Corbin. John Coffey was the next starter, in C. D. Alton's 29-horsepower Columbia runabout.

A Thomas-Detroit, driven by Oliver Light, followed, and J. B. Burrall left on time in a Packard "30," one of the most consistent running cars in the contest. John Leitz came next, in the smallest car in the event, the single-cylinder Cadillac, made the first round without a tremor, and in all of the second but about ten miles, was pursued by a streak of hard luck that put it hopelessly out of the honor class. Another six-cylinder car, W. H. Hall's Pierce runabout, driven by D. C. Lull, was next, followed by A. B. Barkman, of Tarrytown, in a 24-horsepower Maxwell.

President J. D. Anderson, of the Hartford Rubber Works Company, was next in order, in a Thomas Flyer, which carried a full load of jolly passengers, bent on getting all the fun there was to be had in the 174-mile joy ride. Another consistent car was the two-cycle 22-horsepower Atlas, driven by F. W. Ruggles. William Burr, who is remembered as a factor in the club hill-climb of last September, was in evidence in a 30-horsepower Knox.

The Hon. H. R. Coffin, a free bridge advocate for the towns along the Connecticut where one now pays toll, drove his own 45-horsepower Columbia, and did the trick to perfection. Another Mitchell, driven by Frank Zerbes, trailed the Columbia, to be followed in turn by Claude Pinney, of Stafford Springs, in a 28-horsepower Maxwell. J. M. Macdonald, a local driver, handled the two-cylinder Maxwell in next position, and was



Perfect Score Rambler Checking at Hartford Control.

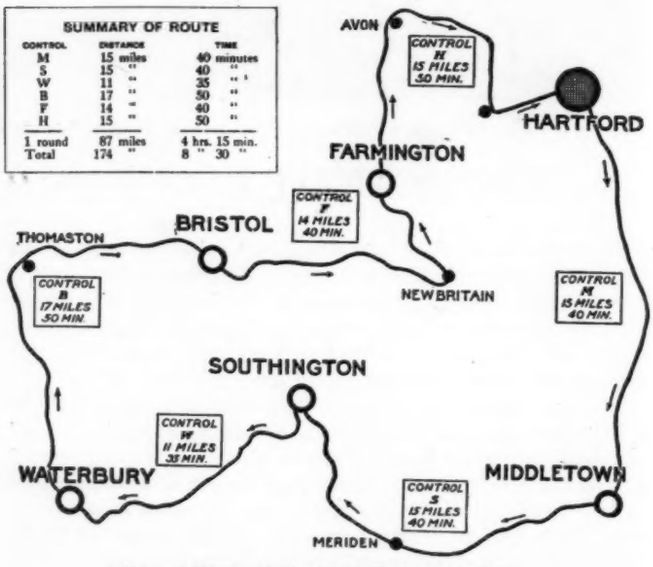
followed by F. W. Belcher, in the 40-horsepower Locomobile of the Fisk Rubber Company. The last in the long line was Gregory S. Bryan, of Bridgeport, in a 36-horsepower Oldsmobile runabout.

Some of the Troubles That Spoiled Scores.

Before the last car had started, news of the forerunners was coming in, and it was learned that G. W. Bennett had been penalized in the White steamer as above mentioned. The Reo had trouble with gears and withdrew, and the Compound was unheard of after Middletown. Truly this contest had the claim to the term endurance, for the cars had no small problem to gain their perfect score. With all the cars under way, the Hartford control took things easy, and prepared for the arrival after the first round. Promptly on time, Bob Ashwell, in the Franklin, came around the corner at a stiff gait, only to suffer a blow-out, which cost him eight points, thereby killing his chances of a perfect score. The remaining cars trooped in, one after another, with now and then one back out of place. The Overland had radiator and tire troubles; Hal Sheridan ran shy on water, and paid the cost; Bob Miner, in the two-cylinder Buick, found it necessary to look at a spark plug, and was

SUMMARY OF ROUTE

CONTROL	DISTANCE	TIME
M	15 miles	40 minutes
S	15 "	40 "
W	11 "	35 "
B	17 "	50 "
F	14 "	40 "
H	15 "	50 "
1 round	87 miles	4 hrs. 15 min.
Total	174 "	8 " 30 "



Map of Route of Hartford Endurance Run.

therefore taxed two points. Compound was out of the running, and failed to appear, but the Stevens light "Six," driven by Hancock, came in clean.

No. 22, Mitchell, was disqualified at the Farmington control for running in ahead of time, but continued under protest, to later capture the coveted clean score for the entire run. No. 27, Peerless, had clutch troubles, and tires were troublesome. No. 29, Olds, had tire trouble, and reported accordingly. No. 30, Pope-Hartford, came in on a clean slate; so did No. 31, Corbin. Tires caused all the damage to the chances of No. 12, Knox, for a clean score, and No. 32 was in the same boat. No. 34, Columbia runabout, had ignition troubles on the first control, but ran otherwise clean. On the second round it came to grief. The big Columbia came home clean, but after crossing the line the radiator connections were found to be in bad shape, and one point was checked up because of the attention accordingly bestowed. No. 35, Thomas-Detroit; No. 36, Packard; No. 38, Pierce "Six"; No. 37, single-cylinder Cadillac; No. 39, Maxwell, and No. 40, Thomas Flyer, came in with clean slates. No. 41, Atlas, had slight troubles of the tire description, but No. 42, Knox, came in clear. No. 44, Mitchell, suffered five points, but No. 46 and No. 47, the four and two cylinder Maxwells, respectively, came in clean. No. 48, Locomobile, had a puncture, and to replace a new tire took just a shade more than three minutes, which is going some, and cost four points. No. 49,

Buick, came home with colors flying and a clean score. No. 50, Olds roadster, had a hard session with tires, and came in to the Hartford control later, and was withdrawn. Out of the 47 cars started, the showing thus far was very good.

That Demand for a Hard Run.

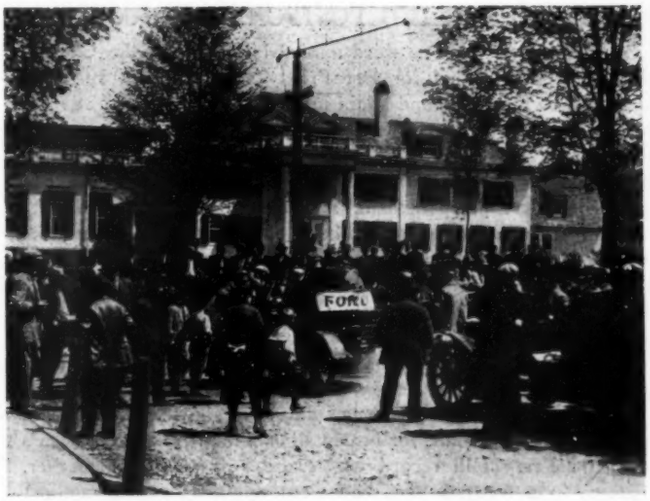
There had been a big demand for a hard run, and it was given, but the cars stood the racket in good shape. After checking out at the Hartford control, a new observer was placed upon each car, and the oil, water, and gasoline supplies replenished.

All the cars reaching Hartford went away over the second lap in good order. As the time for the arrival of the first car approached, the throng once more lined the street, and were soon rewarded by the appearance of No. 1, Franklin, it having maintained that position throughout the contest. Some who went through the first round safely, as in the case of the Cadillac single-cylinder, were hard hit in the final lap. Ariel Mitchelson, Cadillac, 30-horsepower, arrived at a control before he was due, and was disqualified, so put about for home. The final arrival of cars was more or less of a straggling nature. But there is an end to all things, and soon all cars were present or accounted for.

The committee took a short rest, and announced that the results would be forthcoming in a short time. In the meantime, dinner was awaiting the workers who made this affair notable and a success. Then the observers were gathered together in the large dining hall of the Allyn House, and, after due deliberation, that body voted that the G. K. Dustin observers' cup be awarded to the 18-horsepower Maxwell two-cylinder for the most consistent performance.

Chairman Maxim announced that the following cars had perfect scores:

No. 3 Corbin	No. 33 Corbin
No. 5 Stevens-Duryea (light six)	No. 35 Thomas Detroit
No. 8 Rambler	No. 36 Packard "30"
No. 11 Rambler	No. 38 Pierce Arrow (six)
No. 15 Stoddard-Dayton	No. 39 Maxwell
No. 19 Stevens-Duryea (light six)	No. 40 Thomas Flyer.
No. 21 Ford (six)	No. 42 Knox
No. 22 Mitchell	No. 46 Maxwell
	No. 47 Maxwell
	No. 49 Buick



Ford Checking In at Country Club, Farmington Control.

Thus out of 47 starters there were 18 perfect score cars, which was rather surprising, for it assuredly was a hard test.

Winners of the Gasoline Economy Test.

If entrants so desired, they could participate in the gasoline economy test. The official award gave to the No. 5 Stevens-Duryea (light "six") the honors in the class for cars costing above $3,000, "Pete" Robinson being the driver. This car traveled the 174 miles with 11 1-2 gallons.

No. 42 Knox, using 8 1-2 gallons, was the most economical of the cars costing from $1,500 to $3,000.

While Louis Elmer's four-cylinder Ford runabout, using 9 gallons 3 quarts, is the probable winner of the class of cars selling at less than $1,500, a protest which the committee has not yet passed upon has been filed by No. 44 Mitchell.

The Hartford Rubber Works trophy for perfect score cars costing under $1,500 goes to the two-cylinder 14-horsepower Maxim runabout.

A feature of the contest was the fact that all six-cylinder cars entered had perfect scores.

H. K. Sheridan's White Steamer on Top of Southington Mountain—"In the Shade of the Old Apple Tree."

ALGONQUIN CLIMB POSTPONED AUGUST 14.

CHICAGO, May 19.—The third annual hill-climb of the Chicago Motor Club, scheduled for last Friday at Algonquin, Ill., then postponed to Saturday, and again until to-day, because of adverse weather conditions, finally has been postponed until August 14, when the original card will be put on. Efforts on the part of the club to pull off the event were strenuous. Rain last Thursday caused the first postponement, and Saturday morning, despite the fact it looked like rain, the club tried again, this time getting partly through program. Motorcycle events on Perry Hill run off, and automobile card had been tackled, contestants in the third class being sent up the hill when rain came in torrents. Then postponement taken until to-day, with the understanding if the weather was bad affair would go over until August. There was no change to-day, so every one came home.

Part of card that was contested Saturday showed climb would be record-breaking affair, for nearly all cars improved on last year's time, and Perry Hill record was cracked by G. F. Sulzberger, amateur, in a Stearns Six, who went up in 25 2-4, as against previous best of 26 1-5. Sulzberger was allowed to make his climb between Classes A and B, so he could strip car for free-for-all. In Class A, for motor buggies, No. 5, Klinger, led in percentage, although Bendix, four-cylinder rig, made fastest time—46 2-5. In Class B, for cars, piston area under 50 square inches, Moline made fastest time—37 2-5—while the Brush runabout led in percentage. Three cars had gone up in Class C for cars from 50 to 65 square inches, Wayne, Haynes and Moline. Last-named led in time as well as percentage, scrambling up in 32 2-5.

There were eighty entries in the climb, which is claimed as the world's record, as it exceeded seventy of Fort George and sixty-seven in the last Gaillon hill-climb in France.

FOR A RACE TO THE PACIFIC AND BACK.

The New York *Times*, the promoter of the American end of the present New York to Paris contest, now proposes an across-the-continent-and-back endurance stock car race. The idea received much initial encouragement at a meeting of makers, importers and dealers, and some others high up in the sport and industry, held last Friday evening, May 14. In fact, the meeting resulted in the appointment of Jefferson deMont Thompson, A. R. Pardington, and Robert Lee Morrell as a special committee, to suggest rules for the contest.

It is proposed to start the race on August 15, and run it to the Pacific Coast, returning by a different route, so that as many big cities and as much varied territory as possible may be covered. The *Times* will enlist the cooperation of other papers.

ISOTTA VICTORIOUS IN TARGA FLORIO.

MILAN, May 18.—Trucco, in an Isotta Fraschini 40-horsepower car, came in victorious in the postponed Targa Florio race, which was put over from last week, owing to a landslide at a point on the course. Fourteen competitors, running in the interest of as many representative European builders, were sent away over the picturesque course in Sicily, but Trucco's victory was decisive, coming in 13 minutes ahead of Lancia, who was second in a Fiat, and making an average speed of close to 75 miles an hour. The car was the same machine in which Trucco won the stock car race over the Padova Bolanenta circuit.

A LAW OF INTEREST TO GARAGE KEEPERS.

ALBANY, N. Y., May 19.—Governor Hughes has signed the Weimert bill, amending the lien law in a manner satisfactory to the owners and keepers of motor vehicle garages. It provides that a person keeping a garage or place for the storage, maintenance, keeping, or repair of motor vehicles, as defined by the Motor Vehicle law, and who in connection therewith stores, maintains, keeps, or repairs motor vehicles, or furnishes gasoline or other supplies therefor, with the consent of the owner, has a lien upon such motor vehicle for sums due, and may detain it when lawfully in his possession until such sum is paid.

ENTRIES FOR JAMAICA CLOSE ON JUNE 1.

From entries already received and the large number of applications for entry blanks being made, indications point to a big field of contenders in the straightaway trials, to be run on Hillside avenue, Jamaica, Saturday, June 5, under the joint auspices of the Subway Celebration Committee and the Long Island Automobile Club. There will be nine events at each of the following distances: Kilometer, mile, and two miles. Entries will close with Fred J. Wagner, assistant secretary, 29 West Forty-second street, New York, June 1.

STEARNS TO MAKE A TOWN CAR.

CLEVELAND, May 18.—Within the next six weeks, or two months at the outside, the F. B. Stearns Company will place a new model on the market, to be known as a "town car." The new car will be rated at about 30-horsepower (figured on the Stearns rating of sixty), and will be equipped with shaft drive, being the first machine so constructed to be built by the Stearns Company. It will have a three-speed selective transmission and will doubtless be a candidate for honors in the apparently limitless taxicab field once it reaches the market.

Members of Buffalo Bill's Wild West Show Enjoying an Automobile Ride in New York—In Front of Grant's Tomb.

AUTOMOBILE CLUTCHES AND THEIR DESIGN*

By HENRY SOUTHER, Member A. S. M. E. and S. A. E.

IN *La France Automobile* I find reference to an unusual arrangement of springs under the leather of a cone clutch. Not that the use of springs for this purpose is anything out of the ordinary, but their location and arrangement are quite unique. These are shown plainly by Fig. 20. It is apparent that the metal of the cone is entirely cut away for a short section, admitting a flat spring not more than an inch wide. The unusual feature is the use of a pair of spiral springs supporting the two ends of the more or less flexible flat spring. I have not seen this construction in use, but it ought to be a particularly good way of accomplishing this object. In some instances rubber buffers have been used under the leather in place of springs. The other frictional surface bearing against the leather is, as a rule, a cast iron flywheel.

Fig. 20—Spring arrangement of cone clutch.

It is obvious that the construction surrounding the clutch must be such that by no means can an unusual supply of lubricant find its way to the frictional surfaces of the clutch. The flywheel prevents any oil from the engine working its way back, being provided with oil trap grooves for that purpose, if necessary. From the other direction, the gear box, for example, oil ordinarily does not get as far as the clutch. There is usually a considerable space between the clutch and gear box. In general, it may be stated that the cone clutch is as free from variations due to lubricants as any other. The leather surfaces gradually become dry and hard, requiring the application of castor or neatsfoot oil preferably, but not very often.

With proper usage, cone clutches with leather faces seem to last indefinitely. I have accurate knowledge of cars that have surely been driven 20,000 or 30,000 miles without replacement of leather on the cone face. My own experience is confirmatory of this. I have driven several cars with cone clutches and have yet to experience any trouble from the wearing of the leather face. I recently saw a clutch that had been used for about 2,500 miles by me that gave no evidence of wear, neither had it received any attention on my part, except to dose it a few times with neatsfoot oil.

There is one defect in the operation of the cone clutch that has caused considerable trouble. The clutch necessarily requires some end or axial motion and a slip-joint that will permit it. An ordinary square slip-shaft has been commonly used. Instances have been found where these square slip-shafts have jammed under load and seized, so as to refuse to permit of the disengagement of the clutch at critical moments. This is a very serious objection, and one that has not been altogether satisfactorily overcome. Improved materials, increased dimensions and better facilities for lubrication have cured much of the trouble. Generous feathers and splines have been resorted to, which present working surfaces that are normal to each other and which avoid any cam-like or wedging action which may exist with a square shaft bearing in a reasonably easy fitting square hole. Here, again, the perfect freedom introduced by double universal joints plays an important part, the square shaft being very much less apt to bind when perfectly free to center itself.

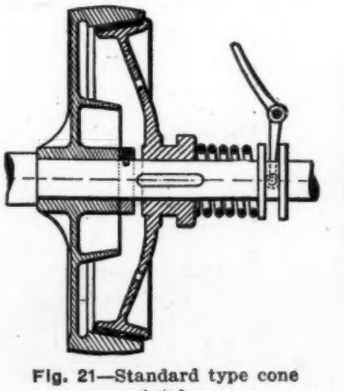


Fig. 21—Standard type cone clutch.

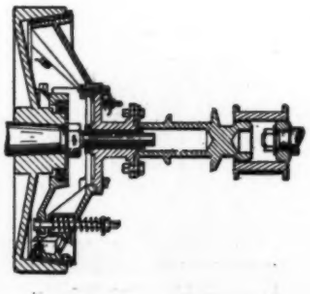


Fig. 22—Variation of the conical type.

There has been a considerable variety of opinion as to the proper cone angle. Various authorities have placed it all the way from 7 degrees to 20 degrees. The French have settled down on an 8 degree to 9 degree angle as being about right for a leather-faced cone. Several important American makers are using 12 to 13 degrees, several 10 degrees, and others 8 degrees.

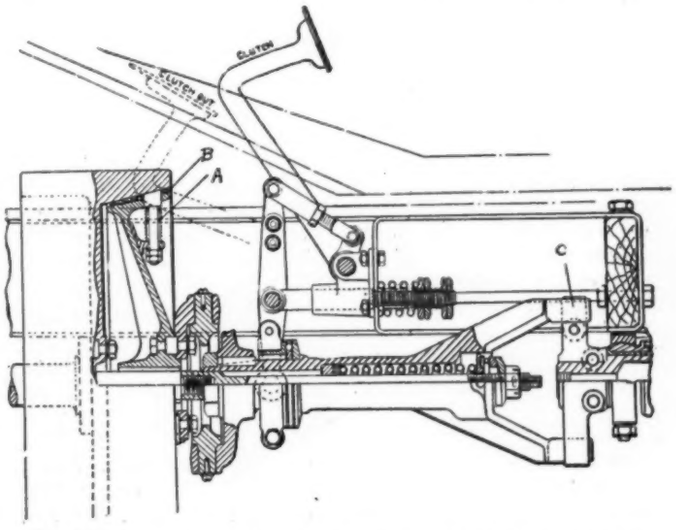


Fig. 23—Method of mounting and control of cone clutch on an auto.

The following table gives the dimensions for cone clutches used on three different models which are probably as successful as any:

Area of flywheel.....	113.1 sq. in.	78.7 sq. in.	73.59 sq. in.
Angle (one side).....	8 deg.	8 deg.	8 deg.
Radius (maximum)	8 1-2 in.	8 1-8 in.	7 5-8 in.
Spring pressure	375 lb.	320 lb.	250 lb.
Horsepower by A. L. A. M. formula	48	42	40

The metal-to-metal cone clutch is a good one. It may be made smaller in diameter and with a sharper angle, say, 7 degrees, withou. seizing. It may be used in connection with copious lubrication. This form has been and is used only to a small extent. The dividing line between slipping and seizing is narrow. Another form of cone clutch has an aluminum male member of about 12 degrees angle bearing against cast iron and with cork inserts in the face of the male member. This clutch is not easily affected by a lubricant and, in fact, may be run with copious lubrication. This type has not been widely enough used yet to give sufficient knowledge as to the possibility of general application under many varying conditions.

Up to this time I have referred entirely to what may be called a direct-acting cone, one where the male part of the cone moves axially towards the engine. This is well illustrated by Fig. 21, which is about the simplest form of leather-faced cone clutch. Modifications of this are many, Fig. 22 showing a clutch of the same principle, but in place of having one strong actuating

*Paper read before the American Society of Mechanical Engineers at New York, May 12. Discussion to be continued at Detroit, June 25-28, in conjunction with the Society of Automobile Engineers. Continued from page 672, "The Automobile," May 14.

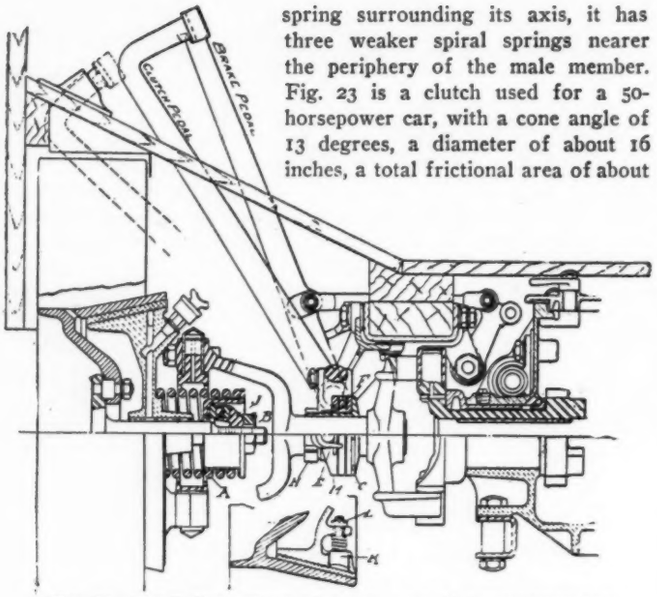


Fig. 24—Small dimensions of clutch on a 30-horsepower car.

spring surrounding its axis, it has three weaker spiral springs nearer the periphery of the male member. Fig. 23 is a clutch used for a 50-horsepower car, with a cone angle of 13 degrees, a diameter of about 16 inches, a total frictional area of about 128 square inches, and axial pressure of 375 pounds resulting from spring. This cut clearly shows a small spiral plunger spring, *A*, underneath the leather face, *B*, to make it pick up its load more quietly and smoothly. This cut also shows a form of slip-joint back of the clutch, *C*, which, although it does fairly good work, is not on the whole as satisfactory as the double-toggle universal joint. It will be noticed that the arms of this joint have been spread as widely as possible, but, at the best, the pressure and binding action is considerable.

Striking Extremes in Cone Clutch Dimensions.

In direct contrast to this clutch is the one shown in Fig. 24, where the diameter of the cone is very much less, not to exceed 10 inches. This is a clutch used in connection with a car developing 30 horsepower, A. L. A. M. rating, and one that has at times developed much higher horsepower on the block—as high as 36 horsepower. The clutch angle is 13 degrees and the frictional area the first two years this car was built was 86 square inches, but this has recenntly been raised to 96 square inches, the spring pressure remaining at 400 pounds. It will be noted at the bottom of this cut that there is a sketch showing the spiral spring plungers underneath the leather. Fig. 25 shows an early form of cone clutch used about 1902 or 1903 for a car of about 20 horsepower. This has multi-springs for creating the proper frictional contact and a peculiar form of spring application, simple in the extreme. One of the early forms of toggle joint is also shown at *A*. This gave in its day what was considered very good service.

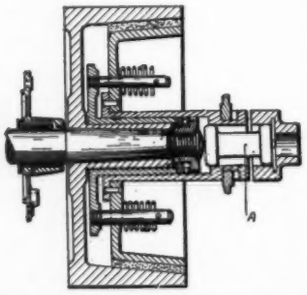


Fig. 25—Early example of conical type of clutch.

Some Modifications of Cone Clutches.

In the *Commercial Motor* for October 31, 1907, p. 218, is shown what may be called a multi-cone clutch. This is seen in Fig. 26. The explanation, to be as simple as possible, is that when the clutch engages, the smallest cone seizes first, commences to revolve and subjects the spiral spring between the next two clutches to torsional movement, which draws them together and brings the two outer cones into action; the idea being that the small clutch shall slip, tend to accelerate the car, that the medium clutch shall behave in a similar manner and that when the large clutch comes into play the three combined pick up the load and move the car. As far as I know, this has not been tried out sufficiently to say whether or not it is a practical success, but it is interesting in showing the amount of thought that has been given to cone clutches.

I have said that theory did not enter into the clutch very much, but below is Fig. 27, which shows the peculiarity of a simple clutch embodying the tractrix curve. This curve is adopted because it is of such a form that by the figured relation of pressures and pheripheral speed, wear ought to take place uniformly at all points regardless of the distance of the point from the center. The claim is made for it that the clearance required to complete the engagement is very small; that there is no wedging action between the two members of the clutch and that there is no chance for it to bind. Also that it is simple and particularly adaptable to metal-to-metal clutches.

Numerous Designs Show Study Devoted to Subject.

It is in effect a flat disc clutch which will not wear faster near its outside edge than near its inside edge, but beyond that I see no gain. It would certainly require very heavy axial spring pressure, just as a flat disc would. The matter of wear is of little moment, either with flat discs or cones. The so-called inverted cone is well illustrated in Fig. 28. The reversed cone is contained in an extension *A*, built onto the flywheel *B*. When the cone is disengaged it moves toward the engine, exactly reversing the action of the foregoing type. This clutch has its adherents, and it is a good one, differing very slightly, if properly assembled, in its efficiency from the direct-acting cone. It may be kept free from dirt and oil much more perfectly than in the other form.

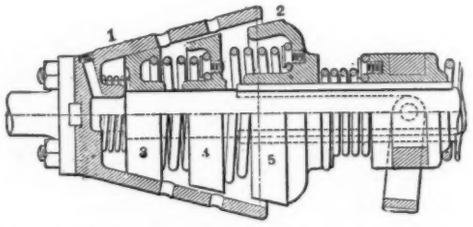


Fig. 26—A variation employing multiple cones.

A simple formula for calculating the ordinary cone clutch is the following, by Chas. H. Schabinger, taken from *The Horseless Age* of October 2, 1907:

$$h.p. = \frac{P f r R}{63{,}000 \sin O}$$

P = Assumed pressure of engaging spring in pounds;
f = Coefficient of friction, which in ordinary practice is about 0.25;

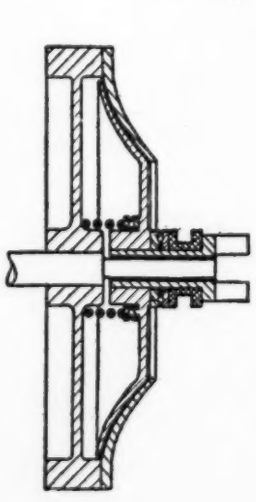


Fig. 27—Type embodying the tractrix curve.

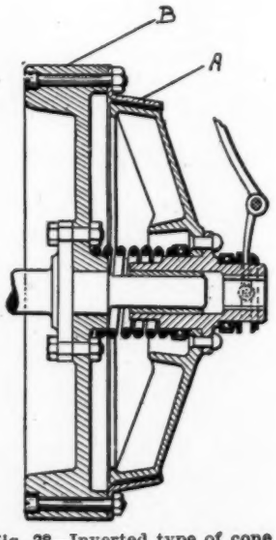


Fig. 28—Inverted type of cone clutch.

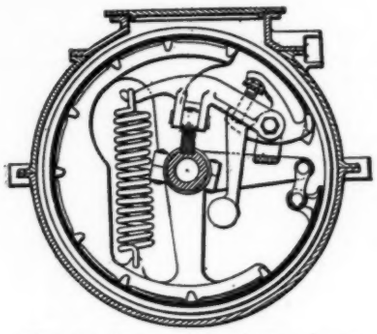


Fig. 29—Form of expanding band clutch.

r = means radius of the cone in inches;

R = revolutions of the motor per minute.

sin O = Sine of the angle of the clutch.

To obtain the size of spring when the horsepower is known, the following formula may be used with good results:

$$P = \frac{h.p.\ 63{,}000 \sin O}{f\ r\ R}$$

the same symbols being used as in the preceding formula. It will be noted that the coefficient of friction used is 0.25. This is probably near enough for a properly lubricated leather-iron clutch.

The next type of clutch may be classified as internal expanding band or ring. This has had many exponents in the automobile art, but is open to centrifugal effects to such an extent that it requires considerable ingenuity to overcome troubles arising therefrom. At high engine speeds the operating levers have in many cases been so arranged as to lower the normal pressure between the frictional surfaces, resulting in a slippage and arbitrarily fixing a maximum limit o fspeed for the car on the high gear and of horsepower possible to develop in low gear. Fig 29 shows a clutch operating on the same principle, driving a 16-horsepower car, the spring pull being 50 pounds, the diameter of the clutch about 9.50 inches, and the width of the band 2 inches.

This clutch was a particularly soft operating one, but did release at high engine speeds. It operated best with a certain definite quality and quantity of lubricant, which, if varied to any great extent, caused a slipping clutch or a sharply biting clutch. The tendency of the clutch is to unwrap and expand against the enclosing cylinder as soon as any friction is applied to it.

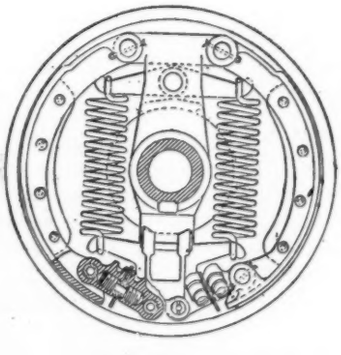


Fig. 30.

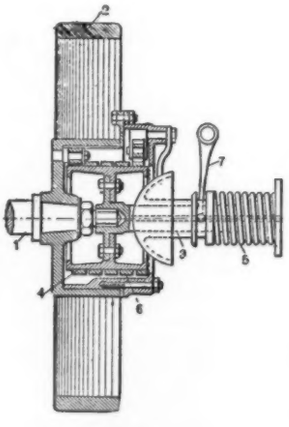


Fig. 31.

Modifications of Band Types of Clutches.

The successor of this clutch is shown in Fig. 30, so designed as to overcome the centrifugal releasing effect of levers in the clutch shown in Fig. 29. The total area of the clutch is 36 square inches and the two springs are of 125 pounds tension each. This clutch was a success, but was finally given up in favor of a simple cone.

Contracting Band Types of Clutches.

The exponents of the contracting band type of clutch are few and far between, unless the contracting spiral be so classed, and perhaps it ought to be. Figs. 32 and 33 show a contracting band characteristic of one of the prominent French cars (Mors). A leather-lined flexible steel band (*8*) contracts against a steel cylindrical band (*2*) bolted onto the flywheel (*1*). Clutches of this character are seldom found in the automobile industry, except in two-speed cars, where a planetary gear-set is used.

About 1897 a single-cylinder 10-horsepower car was equipped with such a clutch as shown in Fig. 33, a leather-lined band, very flexible in character, wrapping around the hub of a flywheel and tightened with a spring pressure of about 50 pounds against a wedge. In this clutch a weight was furnished which would throw out at high speeds and further tend to tighten the band about the hub of the flywheel. The fact that this clutch has not had any successors is an indication that it could not compete with other forms; nevertheless, it was a successful clutch, especially for its time.

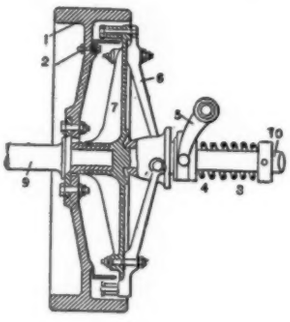


Fig. 32.

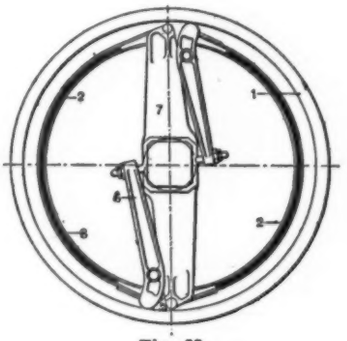


Fig. 33.

Sectional and Plan Views, Mors Contracting Band Type.

Fig. 31 shows a form of clutch that has had prominent adherents. It is the wrapping spiral spring, of either hard or soft metal. The cut indicates the spring in cross section, marked "6," wrapping on the drum *4*. Probably the greatest enemy to this clutch has been the adjustment of the clutching force. With too little lubrication they will not pick up their load rapidly enough. The margin is narrow and hard to control. With a viscous lubricant there is enough drag to make the gears clash badly. The disengagement is not very complete at the best.

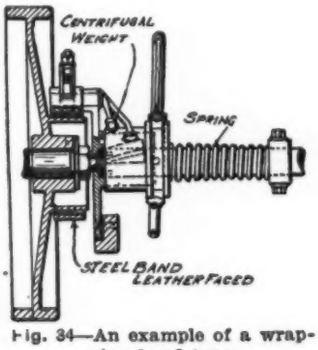


Fig. 34—An example of a wrapping band type.

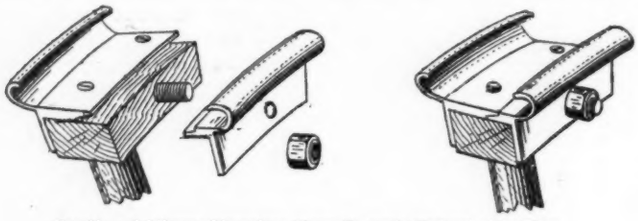
(To be concluded next week.)

NEW METAL VALUABLE FOR AERONAUTS.

According to *Aeronautics*, McAdamite is the title of a new alloy that should prove of wide application, and be particularly valuable to the flying machine industry. Most of the best alloys heretofore produced have about 16,000 pounds compression strength, while McAdamite has 126,000 pounds per square inch. The new metal also has a higher elastic limit than most others, or 84,000 pounds before the yield point is reached. Where the very best of the bronzes could barely claim 38,000 pounds per square inch torsional strength, this alloy has 60,000 pounds, or nearly as much as some steel. In cast metals it is well known that the tensile strength is low, but even here this new metal is very strong, as it shows nearly 45,000 pounds per square inch. The specific gravity of cast McAdamite is 3.20, as against 2.56 for aluminum and 2.98 for partinium. There is a shrinkage in casting it of 12 to 14 per cent. Its melting point is 977 degrees Fahrenheit as against 1,830 degrees Fahrenheit for brass; but, roughly speaking, it has nearly three times the strength in any direction, and three times the volume or one-third the weight of brass. Various degrees of strength and hardness are obtained by the mode of casting. So homogeneous is this metal and so free from gas that intricate and delicate castings can be made.

FRENCHMEN ADOPT QUICK DETACHABLE IDEA.

PARIS, May 13.—It is a rather curious fact that America and France should have worked on entirely opposite lines in the development of labor-saving devices for changing tires. In the United States quick-change tires, in which the outer flange only is removed, are so common as to be found on practically nine-tenths of the current models. Dismountable rims, on the other hand, have found little favor except for racing purposes, more



Sectional Views Showing New French Detachable Rim.

than one firm having put a rim of this type on the market having been obliged to withdraw it for want of support. In France the dismountable rim has long been recognized as a necessity for touring, several firms fitting them without extra charge as a standard equipment, and supplying special brackets for carrying the inflated tires. The quick-change rim, so familiar to Americans, has hardly existed.

One of the first of this latter type has just been put on the market, and, because of its distinctive features, is worthy of a description. The steel rim encircling the felloe is in two parts, one, consisting of the inner flange and encircling band, being permanently attached to the wheel. The outer detachable flange portion is secured on six bolts passing through the face of the wooden felloe and held by six nuts. For further security, the detachable rim is made with a tongue fitting under the lip of the permanent rim. Safety lugs and valve are of the ordinary type. Compared with the usual type of detachable rim there are six points of attachment instead of one, but the few extra seconds spent in attaching are repaid by the assurance that it is impossible for the detachable section to detach itself when not desired.

A Mirror to See the Road Ahead.

An improvement on the usual type of mirror employed to show whether the road ahead of an obstructing vehicle is free or not has been put on the market by a French inventor. Owing to the fact that he is seated low, the driver of an automobile is more handicapped in this respect than the person in charge of a horse vehicle. The improvement, as shown in the sketch

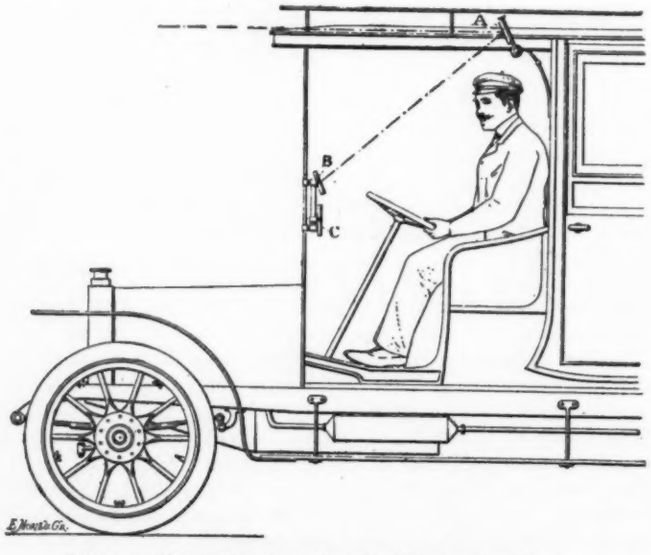


Diagram Illustrating Location Road Reflecting Mirror.

reproduced herewith from *L'Automobile*, consists in placing a mirror at as high a point as possible on the left-hand side of the body of the car. The mirror *A* has thus a much longer range of vision than is possible to the man at the wheel of the car. The mirror *B* attached to an upright from the outer edge of the dash, is pivoted in such a way that it can reflect all that is shown by the observation mirror *B*. The practical result of the arrangement is that the driver's range of vision is equal to what he would have if seated with his head on a level with the roof of the car. The third mirror *C* is the one usually employed to show whether any vehicle in the rear is attempting to overtake the car.

LATEST NEWS OF THE GRAND PRIX.

PARIS, May 15.—Gasoline and tire stations at the grandstands on the Dieppe course have been drawn for by lot, in order that the parties interested might, if desired, rent grandstand seats opposite the spot on which their own cars will draw up. The Thomas car, which was represented at the meeting by W. S. Hogan, the A. C. A. delegate in Paris, drew seventh position, immediately after Mercedes and Austin, and just before Panhard and Weigel. The first number drawn gave the firm represented the right to the box nearest to the starting and finishing line, the others following after in the order of drawing.

The first position fell to Dietrich, the others following in this order: Germain, Bayard-Clement, Mercedes, Austin, Thomas, Panhard, Weigel, Samson tires, Continental tires, Nanterre oils, Bosch magnetos, Dunlop tires, Michelin tires, Renault, Motobloc, Opel, Brasier, Fiat, Porthos, Itala, Benz. The space given to each firm, whatever the number of cars entered, measures 15 by 16 feet between the front of the grandstand and the road. The boxes themselves are slightly sunk down in the ground, and will hardly be visible from the stands, but the cars themselves, drawn up opposite them, will be in full view. As the men at the stations are only allowed to hand goods over to the drivers, and must not give any help whatever, nothing would have been gained by putting their quarters on the level of the road; the boardings would, indeed, have tended to hide the cars and their teams from the view of the spectators.

Immediately the stations had been selected, the firms concerned secured their own positions for the two days of the races, naturally renting those seats which would give them a full view of their own cars. It is declared at the club that the demand for seats is stronger than usual at this early date.

Entries Finally Close Monday, June 1.

Final closing of entries for both the Grand Prix and the Voiturette races will take place on June 1, by which date it is expected that the former list will have been lengthened by the engagement of three Mors cars already on the road, and which will be entered if they give satisfactory results on the road tests. The drawing of positions for the start of the races will take place at the clubhouse on June 5.

The full team of Panhard racers has now been put on the road, making the fourth set of Grand Prix cars to leave the factories. The others are Bayard-Clement, Motobloc and Benz. Though the external features of the new Panhards cannot be hidden from the public, the factory officials are not at all talkative about their models or inclined to give any information about the tests made. Last year's dashboard radiator, on the lines of the Renault, which was a distinctive feature of the Panhard, has not been repeated for 1908, the new cars having a strongly pronounced Panhard appearance with the familiar type of radiator just behind the front axle. Final drive is by double side-chains, as in the touring cars, the employment of shaft drive, which has been a feature of Panhard racers since 1904, not being continued this year. Regarding the engine, not much more can be learned than that it is a four-cylinder of the maximum bore and 6.6 inches stroke, the cylinders being of steel and copper jacketed as last year.

INTERESTING GAS ENGINE CYCLE DEVELOPMENT

By ERNEST COLER, Member Society of Automobile Engineers.

THE two- and four-cycle engines now in use are outgrowths of the Beau de Rochas cycle, supposed to conform to his four axioms covering the ideal conditions of gas engine operation. These axioms are as follows:

1. Highest possible pressure at the beginning of the stroke.
2. Maximum speed of expansion.
3. Expansion to the lowest possible pressure.
4. Maximum cylinder volume with minimum wall space.

The Beau de Rochas cycle falls short of these conditions, because—

1. The highest pressure is not reached with a given compression on account of imperfect scavenging.

2. The speed of expansion is limited to that of the piston, which has a limit for mechanical reasons. In this respect, the "free-flying piston" engine is superior.

3. Expansion is not carried very far. Pressures as high as 60 pounds per square inch are rejected to the exhaust.

4. Maximum volume with minimum surface is counteracted by excessive wall cooling necessitated by lubrication, preignition and charge-reduction conditions.

With a view to overcoming these disadvantages, Robert Miller has developed an internal combustion motor having a modified cycle, and which combines the features of lightness with frequency of impulse and a minimum number of parts. In this new motor, the "Miller cycle" modifies the foregoing conditions in the following manner:

The pressure at the beginning of the stroke will be higher, as the cylinders and clearance spaces are thoroughly scavenged by an *excess* of cold pure air.

The speed of expansion is increased by allowing the burning charge to expand simultaneously in a supplemental expansion cylinder during the expansion stroke only. Since the combined volume of the combustion and the expansion cylinders is thrice that of the combustion cylinder, the speed of expansion must be three times as fast as that in an ordinary cylinder with the same piston speed and stroke.

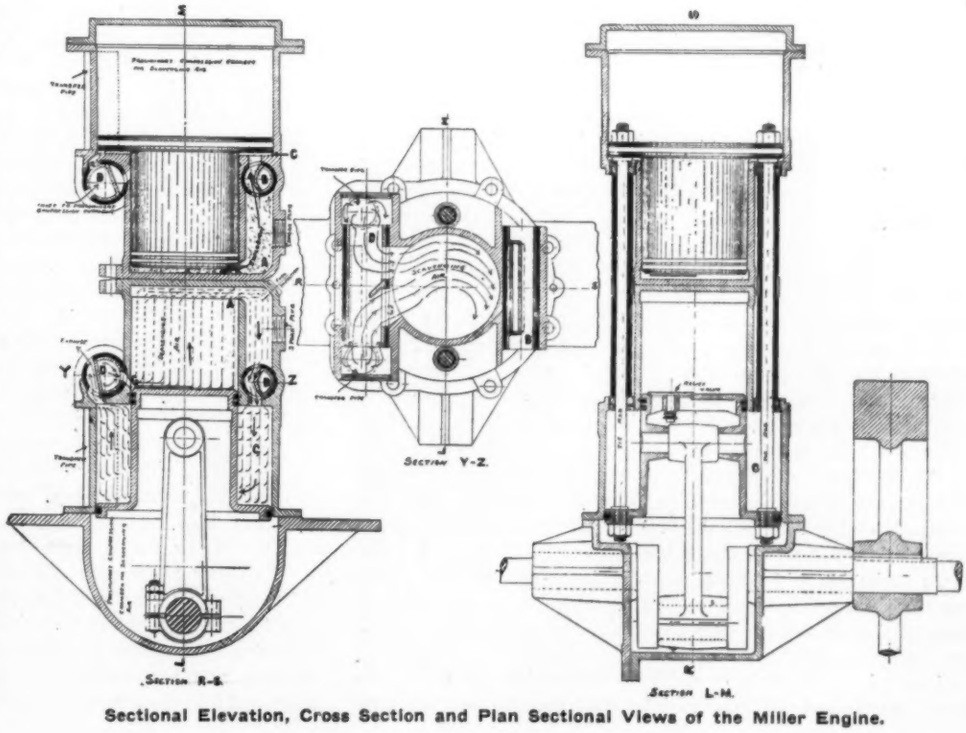
To illustrate this, we will assume a piston speed of 900 feet per minute, and a stroke of 12 inches. The ordinary cylinder will expand its charge from 300 pounds to 45 pounds per square inch in 1-900 of a minute. The "Miller cycle" expands this same charge between the same limits, in 1-3 of 1-900 = 1-2700 of one minute.

The expansion must be carried to a lower limit, in view of the above statement, because this same expansion cylinder will bring the terminal pressure down to about 10 pounds per square inch, the terminal volume being three times the initial volume of the charges above compression.

This method of increased expansion differs widely from the two commonly used. The true compound gas engine (two-stroke expansion) fails because of the low specific heat of the working fluid, the transference of highly heated gas through small ports and valves, which must be kept cool to insure durability, and the enormous amount of cooling surface involved in a high and low-pressure cylinder. The other method, using a small charge (either cut short on the suction stroke or expelling some on the compression stroke), involves a long stroke, and what is gained by increased expansion is lost by increased time of contact with cold cylinder walls. Wall cooling is effected in the "Miller cycle" by the scavenging action of the cold air acting upon the inside of the cylinder. The cycle itself gives a cool cylinder wall, and the exhaust is used as an ejector to draw cold air over the outside of the walls, where necessary, thus rendering the engine independent of fans, pumps, blowers or radiators. The fuel injection also abstracts heat from the charge, because liquids, to pass into vapor, must receive heat.

The engine will be light per unit of power, because more heat will be converted into work instead of being wasted through the cylinder walls and in the exhaust; also the charge weight and M. E. P. must be higher, because the charge is cold, at atmospheric pressure, and its fuel component is added during the compression stroke. Its reliability will be insured because every charge is uncontaminated with burnt residue, and it should be superior to the four-cycle, for the same reason that the four-cycle is superior to the two-cycle—differences in scavenging; and, in addition, the fuel being injected positively during the compression stroke, there are no carbureter troubles.

Referring to the accompanying drawings, we shall go through a complete cycle in one cylinder, the drawing showing a double-acting engine. Assume that in the clearance space of the upper cylinder an explosion is about to take place. At that moment the valve *b* being open, establishes communication between the chamber *a*, and the expansion cyliner *c*, the valve *d* being closed. The result is that the force of this explosion will be expanded in the cylinders *a*, and *c*, so that the expansion will be very rapid, and as the piston reaches the end of its stroke the volume of the combined cylinders *a*, and *c*, will be much greater than of *a*, alone. The expansion must then have been carried to somewhere about 10 pounds terminal pressure, with the result that very little heat has gone through the cylinder wall. While the differential piston was moving in this direction, having on one side the explosive impulse, on the other side it



Sectional Elevation, Cross Section and Plan Sectional Views of the Miller Engine.

was compressing the pure air that is contained between it and the cylinder head, after the manner of the Diesel cycle.

As the differential piston nears the end of its stroke, the valve *d*, will open so that the remaining presssure in the combined cylinder volumes *a*, and *c*, will escape through one port in this valve. As this pressure dies away, the compressed air from the preliminary compression chamber will go through the connecting pipe, through the valve *d* and through the ports *g*. Coming through the ports *g*, this air will traverse the body of the cylinder *a* around through the clearance, through the valve *b*, around through the chamber *c*, and out through the exhaust port of valve *d*. Being in volume about three times as large as that of the cylinder *a*, this pure air will thoroughly scavenge the cylinder, clearance and all, at the same time exercising a cooling effect. That this scavenging will be superior to that of the ordinary cycles will appear when it is considered that in the ordinary two-cycle the scavenging is generally considered to begin at the outer dead center. With this cycle, however, owing to the fact that the gases, at release, are already expanded to a low pressure, scavenging will commence much earlier, and in that most effective part of the stroke, the slow period around the dead center. The time element is an important point in two-cycle functioning.

The piston is now ready to start on its return stroke. The valve *b*, closes, and the valve *d*, remains open. The contracted portion of the differential piston compresses pure air in the chamber *a*, while the differential portion of the piston sweeps out the combined burnt gas and air through an exhaust port in the valve *d*. At a predetermined period of the stroke the fuel pump injects the charge into the chamber *a*, where it is thoroughly mixed by the whirl of the compressed air from the piston. Just before the stroke occurs, the valve *d*, is closed, and the valve *b*, gradually opens. During this time the trapped gases in the chamber *c*, are gradually brought to approximately the same pressure as exists in *a*. Ignition then occurs, and the cycle is repeated in exactly the order of operations just explained.

It must be remembered that on the inward-stroke, while the differential piston is on its smallest portion compressing the new charge, and on its larger portion expelling the burnt gases from the chamber *c*, on the other side it is drawing in a new charge of air through a check-valve, or through a modification in the valve *d*. This engine renders self-starting very easy. It is hardly possible, with the clutch out, that it would stop on dead center, because it would be against the full compression in either combustion chamber. It would, therefore, stop somewhere near mid-stroke. If the fuel pump inject fuel into the chamber *a*, and also into the chamber *c*, ignition in *a*, would travel through to chamber *c*, and a powerful impulse be given to the crankshaft, somewhat in the manner of the compression explosion obtained with the Clerk-Lanchester self-starter, as used in large English gas engines. Reversing with this engine, while probably not desirable for small motor cars, may yet be used for railway and trolley car work.

Assume, in the double-acting type, that an explosion occurs in the top cylinder and, therefore, a new charge is being compressed in the lower cylinder. If a reversing eccentric be fitted and the engine be thrown into a reverse position, in the top cylinder, which is going through an explosion impulse, the exhaust valve *d*, will open, relieving the impulse, and in the lower cylinder the differential portion of the piston, instead of expelling the burnt gases, the valve *d*, will close, and the engine would gradually slow up on an air cushion, the gases being trapped in the cylinder. As the engine slows up, the igniter being tripped prematurely, the engine would reverse both from the premature explosion and the energy stored up in the compressed gases in the cylinder *c*. Rotary valves are shown, but, of course, poppet valves could also be fitted. The rotary valves have the advantage of simplicity and long life, if properly cooled, and are used on the largest air compressors, while none of the other features of the motor represent departures out of the ordinary.

MECHANICAL BRANCH MEETS IN CLEVELAND.

In accordance with the policy suggested at the meeting of the mechanical branch of the Association of Licensed Automobile Manufacturers in Chicago last December, that the branch meetings be held at different points throughout the country, in order to give the engineers an opportunity to inspect and study the different factory methods of its members, the next meeting of the mechanical branch will be held at the Hollenden Hotel in Cleveland Friday, May 22.

The morning session will be devoted to taking up the subjects of proposed standard brake and clutch levers, which have been given a certain amount of attention by the engineers, and especially the Test Committee, for the past three or four months. A full report of data gathered by the Test Committee relative to the dynamometer of the Automobile Club of America will be given and discussed. The report of the dynamometer tests, held earlier in the month, is expected to contain some interesting matter. Papers on the two-cycle motor will be read by E. W. Roberts, and A. W. Thompson, of the Electric Welding Products Company, will give an illustrated lecture on the advantages of combination valves, nickel steel heads and carbon steel ends.

In the afternoon, and possibly the following day, the local factories will be visited by the engineers in a body, and factory and shop methods will be closely studied by the visitors. Thomas Henderson, vice-president of the Winton Company, located in Cleveland, and a member of the executive committee of the Licensed Association, is arranging the details of the inspection trips, and he hopes to have a very interesting and educational program arranged. This interchange of visits to the different plants of the members of the Licensed Association is one of the chief features of the policy recently adopted of holding the meetings of the Branch in different cities that members may become conversant with the various shop systems and methods.

INDISPENSABLE BOOKS FOR TOURING.

The publishers and compilers of THE AUTOMOBILE "Blue Book" have one object only, and that is, as practical autoists, acquainted by road experience with the actual necessities of other drivers, to meet the everyday matter-of-fact requirements of the man at the wheel, and to give the best and most accurate routes, details, directions, and maps which can be made or gathered from reliable sources. To obtain this, they have on the road their own machine, with competent investigators and compilers, and also have the cooperation of secretaries of automobile clubs and hotel men and every garage keeper who can be impressed into the service. Even then, with all their accumulated knowledge and zeal (indeed, by reason of it), there comes with every year the need for a revision and extension of every section.

It is in the order of requirements that New England should receive the publishers' first consideration, for into it, and through it, flows the greatest percentage of the summer automobile traffic of the continent. With this, the latest and best fund of material facts, at his finger tips, the traveler will be enabled to lay out a route to suit his time and desire. It is all there, either in broad, simple, comprehensive skeleton maps, or in detailed diagrams, showing where to start, where to turn, how far has been covered in a given time, and where to stop, as well as that equally important factor, where supplies can be got, or repairs made to his machine. And all this indexed, cross-indexed, and dovetailed together into such a simple whole that a man may travel for weeks through all the States of New England, in a thousand different directions, and find all the material information within the limits covered betwixt a pair of covers of a light, thin, flexible book, easily and cozily snugged away in a driving-coat pocket or a get-at-able receptacle. It is the compactness and accessibility of the great amount of information furnished that appeals to the autoist as much as its intrinsic value.

LETTERS INTERESTING AND INSTRUCTIVE

CAUSE OF EXHAUST VALVE STEM BURNING.

Editor THE AUTOMOBILE:

[1,366.]—I have a single-cylinder motor which is air-cooled around the body of the cylinder and has a water-cooling chamber on the cylinder head, and have had trouble for the last three months with the exhaust valve stem becoming burned where it joins the head. I had no trouble with the original valve, but had to replace it as the slot had cut through the end. I have since made three new valves—the first from a forging and the second two from cold rolled steel. The first broke off at the head, after running about three weeks, and seemed badly burnt, and it is now necessary to replace the third one, as the stem is burnt to about half the size. I have carefully ground each valve with powdered emery and they run nicely at first. Do you think there is something wrong in the cooling, or is the trouble caused by the valve not opening enough? Kindly advise me through the columns of "The Automobile." W. S. CHISHOLM.

Benicia, Cal.

We think it is probable the trouble may be caused by the fact that the hole in the casting through which the valve stem works may have become worn sufficiently to permit the exhaust gases to escape around the stem to a certain extent, which would readily account for the burning at the point in question. Watching the motor closely while working should reveal whether this is the case or not. We do not believe it is due to any defect in the cooling, though if the water-jacket mentioned includes the exhaust valve pocket, an examination may show that this portion of the cooling system is not working as efficiently as it did originally. In case the cause is found to be due to the worn valve stem hole, the best remedy is to drill the latter out and fit a bushing. Of course, a larger valve stem might be used, but as this would be apt to increase the weight of the valve it would not be an advantage. The cam and roller of the exhaust valve-operating mechanism may also show considerable wear, thus reducing the amount of opening, which would also cause overheating.

ABOUT THE ORDER OF MOTOR FIRING.

Editor THE AUTOMOBILE:

[1,367.]—Referring to inquiry No. 1,344, I do not see how Mr. Bryant can fire his motor in the order 4, 2, 3, 1, if the cranks are set 180 degrees apart, as in most four-cylinder motors. When No. 4 is going down on the firing stroke, No. 2 is going up on the compression stroke; No. 3 is going up on the compression or the exhaust stroke, and No. 1 is going down on the suction stroke. No. 3 cannot be on the compression stroke with No. 2, so it must be on the exhaust stroke, so that the cycle is disarranged. I think his motor fires 4, 2, 1, 3 or 4, 3, 1, 2.

Pittsfield, Mass. W. J. EAGE.

A little study of the order of firing the average four-cylinder motor in which the cranks are arranged in pairs in two planes, 180 degrees apart, will show the order mentioned by the inquirer in question (1,344), to be erroneous. This, however, had no particular bearing on his inquiry, which concerned the manner of timing a magneto to run the motor, as it is only necessary to time one cylinder to bring the two in step, as the magneto contact maker and distributor are so designed as to fall into step with the motor, and remain synchronous with it, once they are properly adjusted. It must be apparent that where the order commences 4, 2, cylinder No. 3 cannot be the next to fire, as in order to do so it would have had to be on its suction stroke at the same time as cylinder No. 2 is compressing, which is out of the question, owing to the fact that it is then on an up-stroke. If the latter were a compression stroke, then cylinders Nos. 2 and 3 would have to fire together. The changes you suggest would remedy matters, taking cylinder No. 4 as the first to fire in each instance. It will be apparent that, as the two pairs of cylinders are in different planes, the end pair and the center pair usually running together, it is impossible for the two cylinders having pistons in the same plane to follow one another in the order of firing, for reasons that must be obvious.

WINDLASS USED ON THE FLORIDA TRIP.

Editor THE AUTOMOBILE:

[1,368.]—Regarding the inclosed clipping from "The Automobile" of last week, describing the trip through Florida, will you not kindly publish a sketch or further directions, making plain the method of constructing and using this windlass? All autoists would appreciate this information, of such a contrivance, if it will "pull the bottom of the earth out." I cannot find any mechanical engineer who understands it from the description given. J. A. C. K.

Newburgh, N. Y.

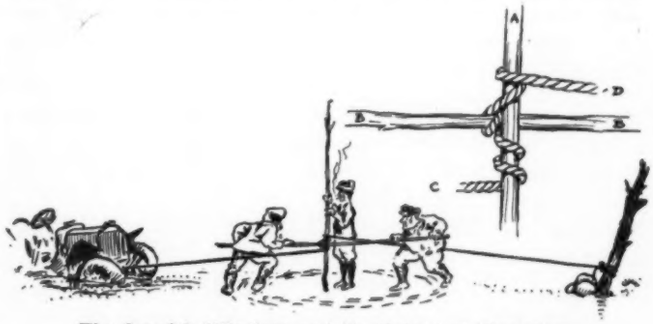
The clipping reads as follows: "Then came the job of getting the Peerless out of its predicament. The guide put through a plan that future tourists should remember. Our salvation was what he called a 'Spanish Windlass.' Let me tell you that it beats a block and tackle or a team of horses all hollow, and it is always available. There were no trees within reach, so 80 feet in front of the car he planted a stake, to which he fastened one end of the rope. Then half way between it and the car he planted another stake, around which he made a turn of the rope and a loop, into which he inserted a strong sapling pole he had cut. The other end of the rope was fastened to the axle of the car. Then two of us manned the sapling pole and walked around with it while two others pried up the car wheels with poles placed beneath the rear axle and hubs. We yanked the car out fairly easy. 'You can pull the bottom out of the earth with that,' said the guide. He did not seem far wrong in the light of our experience."

Editor THE AUTOMOBILE:

[1,369].—In John C. Wetmore's article, "Skirting Florida's East Coast," published in your issue of April 23, he describes in the last half column a "Spanish Windlass." If you will refer to this, I think you will see that his description is rather vague. I would like to know just how this contrivance is set up and operated, and will be greatly obliged if you can furnish this information.

Worcester, Mass. HORACE H. FIELD.

As will be apparent from the accompanying sketch, a rope is made fast to the forward axle of the car and led to the nearest tree or other solid object, failing which a stake is solidly driven into the ground, and the rope attached to it.



The Spanish Windlass and Its Method of Operation.

About midway between the car and this stake the rope is wound around a pole, a small tree usually forming the most available material for this purpose. A second pole, or lever, is then inserted in a loop of the rope where it is wound around the upright pole, which need not be planted firmly in the ground, but can be held by one of the party. By placing a man at each end of this long lever and walking around with it clockwise, the rope having been wound upon it in that direction, the device virtually forms a windlass and it will be apparent that the rope will wind up on the pole from both directions, and if a long pole is employed to insert through the loop of the rope a tremendous leverage can be utilized.

The arrangement in question is graphically illustrated by the accompanying sketch, which will serve to make the details much

clearer than would be possible with a ream of description. If a tree is available for the anchoring point shown at the right-hand end, so much the better. Otherwise the stake will have to be as firmly planted and braced as the car is imbedded in the mud—in fact, more so, as the amount of force necessary to start the car moving from its bed must not be such as to disturb the stake. Otherwise the stake would be pulled up instead of moving the car. The pole or sapling held by the man in the middle, who is doing the heavy looking-on, need not be extra heavy, though once the rope begins to wind on it some distance from the center, it will begin to bend considerably under the strain. If it be not stiff enough to stand it, and the car is still far from being out of its predicament, a fresh start may be made by unwinding the rope from the pole until it is back to its original three or four turns, the surplus rope being taken up either at the car axle or at the other end. It is not necessary to plant this upright pole in any way, as its holder must move backward as the winding of the rope brings the whole windlass nearer its anchor.

The details of the manner of winding the rope and inserting the third pole, which is used as the sweep of the windlass, is shown on an enlarged scale by the sketch in the upper right-hand corner of the drawing. The upright is represented by *A*, the windlass sweep by *B*, and the rope by *C* and *D*, the former end going to the car axle, and the latter to the anchor.

USING DOPE IN A PLANETARY GEAR SET.

Editor THE AUTOMOBILE:

[1,370.]—In "The Automobile" of April 23 you have a letter, No. 1,321, treating on the use of a mixture of sawdust and grease for the purpose of silencing gears. I would like to ask if such a combination would be good in the planetary transmission of a Model S Ford, which transmission, as everybody knows, is very noisy.

Belleville, Ill. H. C. GASS.

The instructions of the makers of cars equipped with this type of gear-set are usually to the effect that nothing but comparatively light oil should be used in them, chiefly for the reason that the pinions are so small that the introduction of a heavy grease would tend to increase the friction of the gear to a great extent. This would seem to be the only objection, and, as your car has plenty of power to spare, it would not be detrimental to resort to this expedient to get rid of most of the noise. The planetary gear-set is something that is extremely difficult to make silent when running on the low gear, or idle, though much of the noise created by the Ford seems to be occasioned by the high speed at which the motor is run. You will find a later letter, No. 1,345, in the issue of May 7, in which the writer describes his experience with silencing compounds, and which you will doubtless find very interesting. There seems to be no reason why the same expedient could not be adopted in your case.

WANTED: A LIGHT 2-CYCLE AIR-COOLED MOTOR.

Editor THE AUTOMOBILE:

[1,371.]—I want to build a light car that will take hard roads and steep grades, and one that will give no trouble to those having no experience in taking care of a motor or car. I would like to employ a two-cycle, air-cooled motor, as it is light for the power, has few parts, etc., but have some friends who tried a certain make and they were not satisfied at all. I have a circular of the Speedwell motor, and letters from a Pennsylvania firm, A. H. Yocom, Reading, Pa. According to the description of their motor, I think it is what I want, but I cannot afford to make experiments and must get the right thing the first time. I am a good mechanic and am able to build anything in this line, as you will see by the car I have just completed, which I am sending you a blue-print of. If you care to publish this, with a description, I will send you a better photograph and tell you what can be made in the Far West, a long way from anywhere. ARTHUR HENDEY.

Jerome, Ariz.

We are not acquainted with a two-cycle motor of the name you mention, nor do we know the product of the firm in question, and so are not in a position to help you out in either case. We should be pleased to receive a photograph of the car you have built, together with a description of it, for publication.

ONE SET OF PLUGS WITH DUAL IGNITION.

Editor THE AUTOMOBILE:

[1,372.]—Will you kindly answer, in "Letters Interesting and Instructive," this question? Would it be possible to use a single set of spark plugs in a six-cylinder engine that has an Eisemann low-tension magneto and a storage battery system of ignition? Both systems are entirely separate now, and I use two sets of plugs, which are set in a funnel-shaped brass casting, so as to have both plugs over the intake valve on each cylinder; this method of placing the plugs brings them about an inch and a quarter out of the cylinder. C. B. RICHARDS.

Minneapolis, Minn.

This is done on the Packard car and forms a regular part of its standard equipment. You say Eisemann "low-tension" magneto, but presume you mean high-tension. The makers of the Eisemann will provide you with the necessary parts for making the change.

MARKETING AN AUTOMOBILE INVENTION.

Editor THE AUTOMOBILE:

[1,373.]—Being a reader of your paper, I take the liberty of writing you. Can you give me the desired information? I have invented an automobile street sweeper, and would like to submit my invention to a company, manufacturers of electric or gasoline trucks. I thought you could advise me as to the company most likely to be interested in such an invention. W. H. HADLEY.

Hartford, Conn.

We are not in a position to give you any information concerning a manufacturer who would be apt to take an interest in your invention, but the publication of your letter in these columns may chance to bring it before someone who may be able to help you out.

AN EXPLANATION OF THE MAGNETO TROUBLE.

Editor THE AUTOMOBILE:

[1,374.]—I note H. J. Bryant's trouble in replacing his magneto, in your issue of the 7th. While your directions for replacing and setting same are all right, it might be of interest to have some sort of an explanation of his trouble.

Most magnetos have their armatures turn at crankshaft speed. There are, far as I am aware, only two exceptions to this rule. Incorporated with most magnetos is a secondary current distributer. This, of course, turns only at one-half of the crankshaft speed, therefore the distributer only makes one revolution to two of the armature shaft. If the armature of the magneto had received one complete turn while the magneto was off its position on the motor or the motor had received the same, everything would have been replaced apparently as it was before, but the distributer would be found to be one-half a revolution out of the way. This would not be apparent without an examination of the motor and the distributer.

The simplest remedy would be to remove the magneto and give the armature one revolution or to disconnect the two-to-one gear of the magneto distributer and give the distributer one-half of a revolution. It is immaterial which of these is done, but one may be mechanically easier than the other. HAROLD H. BROWN.

Boston, Mass.

FOR TOURISTS WHO CROSS THE BORDER.

Editor THE AUTOMOBILE:

[1,375.]—Under the heading–"Taking Cars Across the Border" in your issue of the 30th ult., you make mention that for a sum not exceeding $10 we are able to furnish all that is necessary for an American touring Canada where the car crosses by way of Niagara Falls, Buffalo or Detroit. This is perfectly correct, but we would like it understood that we are able to send the requisite documents and tags through the mail to the home of the intending tourist, enabling him to cross without delay or interference at any point on the frontier. THE C. S. WARNER COMPANY,

Niagara Falls, Can. Roland Margetts, Mgr.

WHAT AN INTERESTED OBSERVER SAW.

Editor THE AUTOMOBILE:

[1,376.]—Coming downtown recently I saw the latest thing in taxicabs. It was a car of uncertain vintage and ungainly lines with an equally awkward-looking body perched on it, and—it had a taximeter, but observation failed to reveal any connection with the wheels by which it could operate when traveling. S. R. L.

New York City.

TEXAS FINDS AUTO AN ECONOMICAL NECESSITY

By F. S. SLY, Traveling Correspondent for The Automobile.

HOUSTON, Tex.—This city now boasts one of the most flourishing automobile clubs to be found anywhere in the Southwest. Beside the 200 or more cars here, most of which belong to members of the club, there are many non-owners who are working hard for the club's benefit and the cause of automobiling. In fact, the club has been largely instrumental in securing the recent issue of $5,000,000 in bonds for the improvement of the roads of Harris county. H. T. P. Wilson is the presiding officer of the organization, while Sam Bering is secretary and treasurer.

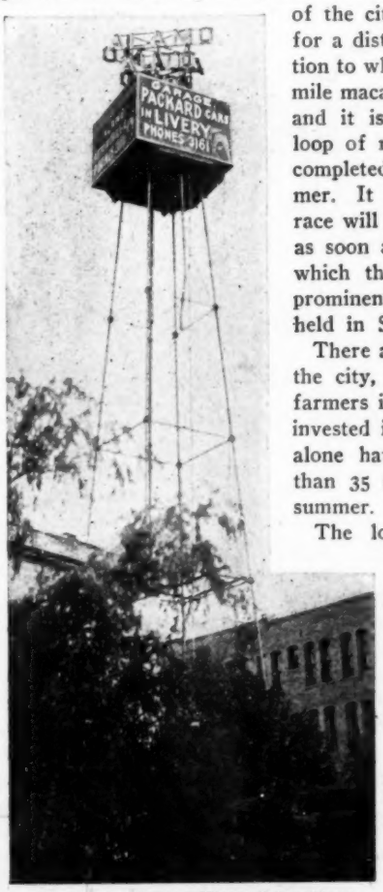
A great many well-known cars are represented here, in addition to which manufacturing has been begun on a moderate scale by the Southern Motor Car Company, which builds the Dixie.

There are no less than five up-to-date garages run by the following: J. Wade Cox, representing the Ford; Empire State Motor Car Company, handling the Maxwell, American Roadster and American Mors; Houston Motor Car Company, the Pierce, Thomas and Mitchell; Mosehart & Kella Company, the Locomobile, White and Buick, and the Auto & Motor Boat Company, the Wayne.

Business has not been unusually brisk so far this year, but the prospects for a good selling season are bright.

San Antonio One of the Best Auto Marts.

San Antonio, Tex.—Trade has been very quiet here this year up to the present, and the dealers are not looking forward to an over-prosperous season. The vast road improvements planned will do much to awaken interest, and there is no doubt that quite a number of cars will be sold within the next few months. A very large slice of the $5,000,000 good roads' appropriation is to be expended in this vicinity; all roads leading out of the city are to be macadamized for a distance of 12 miles, in addition to which there is already an 18-mile macadamized loop in existence, and it is expected that a 40-mile loop of macadamized road will be completed during the coming summer. It is anticipated that a road race will be planned for this course as soon as it is completed, besides which the auto races are a very prominent feature of the fair to be held in September.



How One Texas Firm Advertises.

There are now 285 cars owned in the city, while quite a number of farmers in the surrounding country invested in cars last year, one firm alone having disposed of no less than 35 cars to agriculturists last summer.

The local club, of which Dr. W. B. Russ is president, H. E. Ogg, vice-president, and Dr. Fairfield, secretary and treasurer, is a progressive organization that counts about 65 owners of cars among its members.

There are quite a number of different cars represented here, but only three garages. The Automobile Station, which maintains one of them, handles the Stevens-Duryea, Studebaker and Buick, while the Alamo Garage has the Stoddard-Dayton and the Auburn, and the Cook agency, which runs the third garage, represents the Ford and the Reo. The remainder are simply agencies, Bert Robbins having the Mitchell; Mackay has the Holsman, and the Fink agency, the Duer and the Brush runabout.

Texas a Paradise for the Highwheeler.

Austin, Tex.—There are many more of the high-wheel buggy type of automobiles in this part of the country than anywhere else I have been. They are to be seen running around in numbers, and their use is not entirely confined to the rural population either, although they are naturally a favorite with the farmer. Quite a number of them were sold in this vicinity last year, and they are said to give excellent satisfaction in service. The Texas farmer usually does things on a pretty good scale, and is accordingly well accustomed to taking care of machinery, so that he finds the simple power plant of the high-wheeler a practical affair and has little or no trouble with it.

There are three good sized garages here, the Austin garage, representing the Pope-Hartford, Ford, Reo and Holsman; the F. Fischer Auto Company, and the Twentieth Century Garage, which do not do any agency business. Among the agencies here are A. C. Goethe, handling the Rambler; Howard Taylor, agent for the Dorris, and Elwell Nalle, who has the Thomas. The greater part of the demand for cars here comes from the country districts, some being bought by farmers, but the majority being used by country doctors.

There are about 75 cars in use in the city itself, and there was a club at one time, but apparently it no longer exists. The country roads are poor but passable, which is not saying a great deal.

Waco Has Some Good Stretches of Road

Waco, Tex.—There is one fine stretch of well-paved macadam road, 28 miles long, leading into this city, and there are also six or seven stretches of gravel road, seven or eight miles long, that are good. The rest are just about the average of the usual Texas road, which is poor. There are about 80 cars used in the city, but thus far no attempt has been made to organize a club.

The Franklin line is handled here by M. T. Bell; the Ford, by H. T. Cruger, who also maintains a garage, and the Maxwell line is represented by Percy Willis. M. Dupree has the Glide agency; S. F. Kirksey, the Thomas; and B. G. Campbell, the Buick. The Texas Auto & Transportation Company maintains the only other garage.

Business Prospects Bright in Dallas.

Dallas, Tex.—This city is really the true fountain-head of Texan automobiling, for it can boast of more than 250 cars, and it has one of the most flourishing automobile clubs to be found anywhere in the Southwest. Colonel Hunter is the president, and Eugene Corley, the secretary and treasurer. The club holds runs every now and again, and is a strong advocate of the good roads movement. That it has been instrumental in accomplishing considerable in this direction seems evident from the fact that there are fully 200 miles of good macadam roads in this county. The black roads are good going in the summer, but very bad in winter. Business prospects are excellent, one agent already having disposed of 15 more cars than at the same date last year.

There are three large garages, and many prominent American cars are well represented. The Cameron Automobile Company has the Stevens-Duryea, Cadillac, Franklin, and Buick; the Dallas Novelty Manufacturing Company, the Reo and Baker elec-

trics; and the Maxwell-Briscoe-Handley Company, representing Maxwell interests as a branch house. The Studebaker Brothers Company also have a representative of their own here, but do not maintain a garage.

Galveston Presents But a Limited Field.

GALVESTON, TEX.—When the fact is considered that the entire island upon which the city of Galveston has been built is of sand, and there are no bridges on which automobiles can run connecting it with the mainland, it is apparent that the area of travel open to a car is extremely limited. This is made even more so by the fact that many of the city streets are at present impassable owing to the work of raising the grade which is being carried on. Consequently, the only place to run an automobile is on the paved streets, as once off these the sand is very loose and deep. There is naturally not much demand for cars here at present. When improvements now in progress are completed the market will improve greatly.

AUTOISTS PROGRESSIVE IN THE GULF STATES

MOBILE, ALA., May 10.—It is difficult to conceive of more adverse conditions for autoing than exist in the southerly portion of the Gulf States, yet this city can boast of no less than 200 cars, despite the fact that it is hardly possible to drive a machine 100 miles without submitting it to an overhauling process to relieve it of the great quantities of sand that find their way into every recess, regardless of the precautions taken to prevent it. The streets of Mobile are favorable for automobiling, but, even if it were a very much larger city than it is, its confines would not make a very ample field for the operation of a car. Once outside the city, there is nothing but sand, and it makes very hard traveling.

Mobile Auto Company's Garage, Mobile, Ala.

Autoists are progressive here, nevertheless, as a club is just being organized. G. J. Hartwell is the secretary and treasurer, and it is quite probable that H. H. Wefel will be elected president.

Quite a number of the well-known makes of cars are represented here and there are several good garages. The Southern Automobile Company maintains a modern garage and handles the White, Pierce and Buick; while the Mobile Automobile Company, which also has a garage, represents the Stoddard-Dayton, Mitchell and Glide. Bloch Brothers handle the Pope-Toledo, Pope-Hartford, Pope-Tribune, and National electric; while Gemthorpe & McKeon have the Maxwell line and run a garage.

Dealers state that the demand for automobiles in this section is almost entirely dependent upon the state of the lumber market, and as there has been more or less depression in the latter during the past few months, trade has not been active, though agents in Mobile are looking forward to a good season, as it is anticipated that conditions will become more favorable in the near future.

Crescent City Boasts Many Cars but No Roads.

NEW ORLEANS, LA., May 11.—This city forms one of the most striking examples of the introduction of the automobile in the face of adverse conditions that is to be found anywhere in this country. Here is a city of less than 300,000 people and with a population that is almost 60 per cent. negro, yet while the per capita wealth of the white inhabitants is comparatively low, it can boast of almost 400 automobiles, though there is hardly a road outside of the city limits that can be dignified by the title. In fact, they are almost impassable, except in the direction of Baton Rouge. A movement is on foot looking to a good roads propaganda, but as yet it is still in embryo.

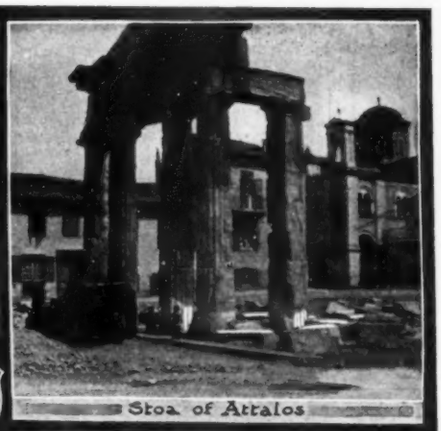
Even in the city itself, driving is limited to comparatively few streets, such as Canal and St. Charles, where the going is good. Most of the others impose a test on a car that few owners would care to submit it to, speeds of more than a few miles an hour being impossible over these streets, owing to the nature of their pavement, which consists of large stone blocks that were presumably on a level when originally laid, but which have been permitted to fall into such a state of disrepair that scarcely two are any longer in the same plane, so that driving over such a surface, even at the lowest speed, would be apt to rack a car badly. There is a club here, of which Samuel Stone is secretary-treasurer.

A Glimpse of Bienville Park, Mobile, Ala.

Quite a number of cars are represented here, and though agents report that business has been dull during the past few months, it is said to be picking up much better now. The Glide Motor Car Company handles the Glide, Ford, and Regal; while the Abbott Automobile Company has the Packard, Olds, and Buick, and maintains a garage, as does also the Automobile Company, representing the Locomobile. The only other garages are those of the Independent Auto Company, which handles the Stoddard-Dayton; M. Zilberman, and the Central Garage Company, both of the latter maintaining garages, but not representing any makers. Other agents are the Crescent City Auto Company, handling the Cleveland, Northern, and Palmer; Abner Powell, who handles the White, and H. A. Testard, who has the Cadillac and Pope-Toledo. Just as the state of the lumber market is the governing influence in southern Alabama, the demand for sugar and cotton has much to do with the purchase of automobiles here, and the fact that planters have been holding their cotton for better prices serves to explain the recent dullness.

Broken Column at Parthenon

King's Palace



Stoa of Attalos

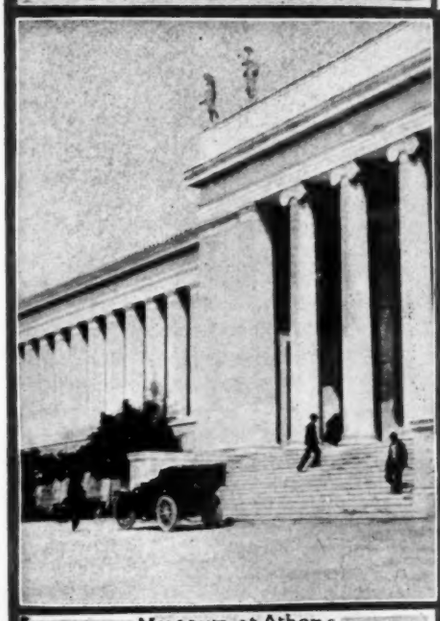
Auto-ing Among Antiquities

Glidden in Greece

ALMOST 1,000 miles were covered by Mr. and Mrs. Charles J. Glidden during their stay in Greece, which was terminated on April 16. Their pilgrimage in that land of classical lore was made from Piræus, around Athens to the plain of Marathon, to Tatoi, Thebes, Eleusis, Delphi, Nauplia, Mycenæ, Tyrius, Epidaurus, Corinth, and minor points famous in times long past. Greece has many attractions for the automobilist, although the roads are somewhat limited, and generally bad, but well graded. Of course, the scenery is superb to the antiquarian.

There are about thirty automobiles in Greece at the present time, mostly in Athens, and gasoline costs sixty cents a gallon—a serious handicap.

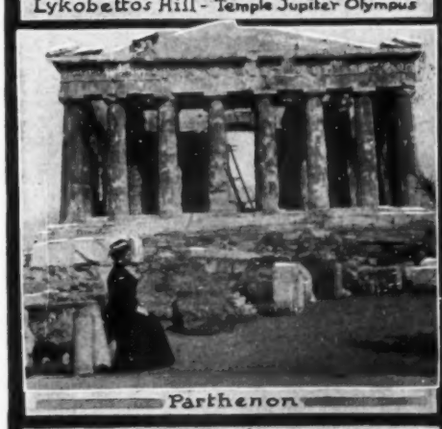
Mr. and Mrs. Glidden arrived in Paris May 10, after a tour of 3,831 miles in Egypt, Syria, Greece, Italy and France. They have now completed 46,123 miles of their 50,000-mile tour, and have traversed 14,000 towns. The next trip will comprise Algeria, Tunis, Norway, Russia, Cuba and South America. "Automobiles are still an object of curiosity in Turkey," says Mr. Glidden, "but their importation is now authorized by an imperial irade, and permits granted to two firms to establish an auto service in the interior, which will be running regularly within a short time.



Museum at Athens

Lykobettos Hill - Temple Jupiter Olympus

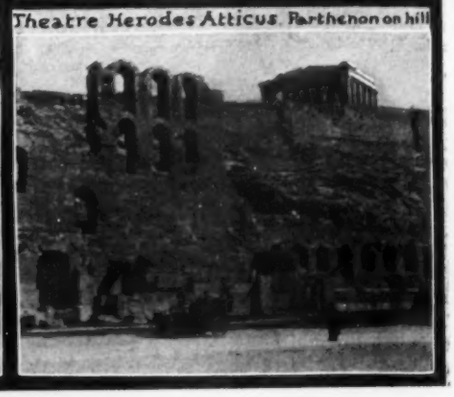
Acropolis. Temple Jupiter Olympus



Parthenon

Greek Church

Mars Hill



Theatre Herodes Atticus. Parthenon on hill

HERE'S a French idea, workable in any large town: Every automobilist knows the difficulty of making his way through a strange town, particularly the large, populous places which cater to automobile tourists. Whether one is simply passing through, or proposes to lunch, sleep, or dine, it is annoying to have to poke along, first up one street and then down another, in the vain hope of tumbling by chance into one's hotel, only to finally land in some garbage heap away out on the other side of the town.

The average "native"—possessed often of the best intentions—more often puts one wrong than right, whereas three or four small boys, properly instructed as to the kind of information an automobilist *en tour* really wants, could point out the best way through a crowded town, and thus enable the man in the car to avoid many undesirable, and perhaps dangerous pitfalls, such as badly paved streets, dangerous level crossings—and police traps, too. They could indicate the best and shortest route to one's hotel, the garage where one might want to purchase supplies, the post and telegraph offices, etc.

A seat on the running board, and say a fee of ten cents, would be the small boy's charge, and he would thus by a natural process of evolution turn his fellows into friends of the automobilist, instead of the stone-throwing antagonistic opponents that they mostly are at the present time. As a profession of the youth of the land, that of "auto-pilot" should rival that of golfer's *caddie,* if this idea is followed out generally.

At Dinard, one of Normandy's fashionable watering places, the plan has already worked well, and this season may be expected to find the idea largely developed here and in other likely places as well. Why not?

A MODEL AUTO TOUR IN EUROPE.

By RODNEY OGILBY.

Each Summer witnesses an increase in the number of Americans automobiling over the splendid European roads. Paris is generally chosen as the starting-point, and so many tempting routes stretch away in all directions, like the spokes of some Titanic wheel, that it is no easy matter to choose between them.

Below this outline is a route which combines perhaps as many and as varied attractions as it is practicable to devise in a tour of its length—the level and beautiful reaches of the chateau district, the magnificently scenic course of the Savoy Alpine-land, the smiling plains of Piedmont and Lombardy in Italy, and a glimpse of the lovely Italian Lakes. The tour ends at Aix-les-Bains, where the hotel and garage accommodations for visitors planning a lengthy stay are unsurpassed.

From Paris, the first day's run takes us to Orleans, a hundred miles. The route lies through Fontainebleau, with its far-famed castle and forest, and here lunch may comfortably be taken. Orleans itself is an interesting town, made famous by its associations with Joan of Arc. It is an Old World little place, with its Cathedral and quaint Town Hall, and has a choice of two or three reasonably good hotels.

Blois, forty miles below Orleans, may be regarded as the gateway of the chateau region, and Tours, forty miles farther still, is its center. At Tours, several days may be profitably spent, each with its interesting auto-excursion in this attractive neighborhood.

Touring now southwestwardly, we run on by Bourges and Moulins to Vichy—a pleasant two-day, 200-mile run over fine roads. Vichy is a lively little resort, and a good place for another brief stay. Then comes Lyons, a hundred miles farther; and, following that, Grenoble, seventy-five miles, where the level part of the tour ends for a time.

Grenoble is superbly situated, and in its vicinity are some extremely fine hill courses—roads winding into the heart of Alpine scenery, climbing frightful precipices with uniform and easy gradients, and invariably in the pink of condition, as are all French roads. Close by, too, is the venerable monastery of the Grande Chartreuse, where the unrivalled liquer used to be distilled until the silent Trappist Brothers were expelled and took refuge in Spain.

From Grenoble, a spin of another seventy-five miles takes us to Briançon, and sixty more to Turin. This is a route of fine views, with some of the most striking peaks of the Italian Alps continually in sight. Turin will be found a trifle warm in Summer, but the sensation of heat can be mitigated by taking a little glass of its well-known vermouth. The hundred-mile ride to Milan, also along the flat, fertile plains, may prove rather warm, but Milan itself will offer ample compensation in its numerous sights, its cool cathedral, and its airy and gay galleria. From Milan, a delightful day's trip should be made in the auto to the Certosa di Pavia.

Now you turn northward, and speed up to Como, perhaps the most captivating of Italian lakes. Next should come Lake Maggiore, reached on its western side at Pallanza, by way of another pleasing spot, Varese. Pallanza is a hundred miles from Milan. The great diligence highway of the Simplon, now just superseded by the new ralroad, runs from Pallanza to Domo d'Ossola, whence we strike southwest again, by way of Biella, to Aosta, a hundred and sixty miles. Now begins some more fine hill roads, as the motor pushes on to Pré St. Didier, and then to one of the finest view resorts in the Southern Alps, Courmayeur. This mountain village, a favorite spot with Italians, beloved by the late Empress of Austria, but little visited by most American travelers, lies almost at the foot of the southern precipices of Mont Blanc, whose huge bulk, towering above the Allée Blanche between, is far more impressive as seen from this side than from Chamonix.

Finally, the route leads on out of Italy, high over the pass of the Little St. Bernard, and down through the French military post of Bourg St. Maurice, to Aix-les-Bains, a hundred and fifty miles from Aosta.

Some of the hills, especially those on the latter part of this attractive itinerary, are somewhat steep, and an anti-skidding tire and a powerful brake should be used in the descents. On the mountain routes the chauffeur should not indulge himself in high speeds at places where the prospect ahead is interrupted by sudden turns in the road. Carts and other slow-moving vehicles are constantly to be met or overtaken, plodding stodgily along, and one never knows what may be suddenly encountered.

Head Dressings of the Fair Autoist

Picturesque Scarf Hoods Are Popular and Effective.

TIME was, and not so many years ago, when the crumpled rose leaf that marred the happiness of the fair automobilist was the lack of wind-resisting headgear. Her cry to the milliners, "Make for me a hat that will stay firmly upon my head during a swift run and I will reward you with the half of my pin money," has finally been answered. So multiform, indeed, are the designs now seen in the shops that it would seem as though any woman—whatever her complexion, facial contour or apparent age—might readily find suitable motoring headgear.

Straws deserve first place at this season, and among the finer weaves are medium-sized shapes in brown, burnt orange and black, these of the modified English walking and boat order which will stand considerable trimming in the form of big buckles, coq plumes and wings. Such shapes are exceptionally becoming to women past their first youth or those having strongly marked features.

Coarse and fine straw braids employed alternately are most effective. This idea is pleasingly developed in the shape of a medium-sized navy blue boat hat, having a rather high, square crown with four distinctly blocked upper corners, and trimmed solely with braided strands of self-colored taffeta. Chiffon folds of the same tint with a black outlined satin border are draped about the crown from front to rear, then drawn forward and tied beneath the chin, so that trimming and veil are practically in one piece.

Because of the protection afforded by the omnipresent veil some exceedingly tiny hats are used for autoing. In this class are the miniature Alpines of fine and coarse natural colored straws, their deeply indented crowns and closely fitting brims trimmed with black velvet and black birds. These look immensely *chic* when perched upon masses of puffs and curls, as do also the envelope hats with their sharply upturned left brims distinctly outlined with a contrasting binding, and the little perky bows fluttering against the rather flat crown. Of the same order are the small fine straw hats, brimless at back and slightly pointed over the brow, that are bound and banded broadly with dark kid matching the small rosettes which decorate the crown and the bandeaux which tilt them ever so slightly to the right side of the head. Leather and kid bands and rosettes are a feature of the trimming of the rougher type of hats, meaning those used for long and hard tours of several weeks' duration. In this event the trimmings match the strappings of the corded rep or rubberized pongee motor ulster.

Panama hats of modest dimensions and tailored finish are certain to be much worn during the Summer. Their popularity is largely due to the fact that they have flexible brims which may be rolled in whatever direction is most becoming to the individual face. They are trimmed in various ways. At present many Japanese scarfs are employed in their adornment. These are drawn loosely about the crown from brim almost to apex and knotted at the left side toward the back so that the fringed ends drop over the hair. When the inch wide bands are Yale blue, Harvard red, or whatever great university ranks most highly in the wearer's esteem, the ribbons are drawn tightly about the crown and secured invisibly, or they are joined with big black leather buckles which give rather a distinguished air to the hat. With the advent of really warm weather, these useful Panamas may be cleaned or bleached and decorated more seasonably with black, brown, or white chiffon choux and loops, supplemented with pretty dove wings.

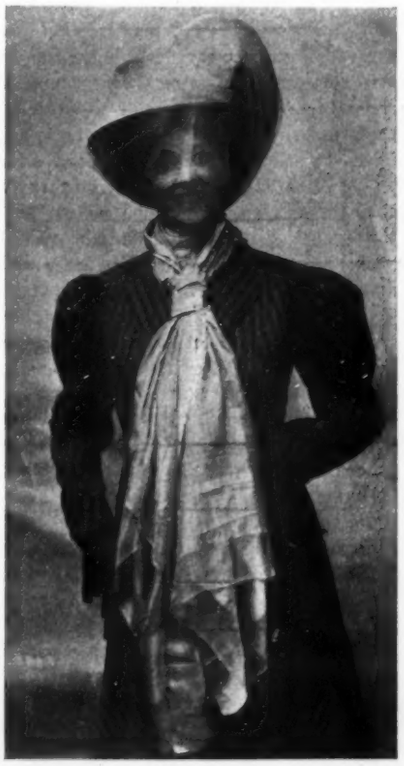
Crowns are of diversified shape with the Tam O'Shanter version rather in the lead. This is owing to their non-crushable characteristics, and the fact that the narrow, slightly inverted brims render them wind resisting. Moreover, Tams require scarcely any trimming beyond the twisted silken band, which never gets in the way of the veiling scheme.

Satin motoring hats have come into being with the craze for fabric-covered headgear, and in their dip-brimmed, peak-crowned form are deemed immensely smart, particularly for use with the rubberized satin coats. They are usually decorated with yard-long scarfs of self-colored soft silk having deeply bordered fringed ends of contrasting hue, knotted in single bows at the left side, slightly toward the back.

Brimless turbans that dip at the back are not universally becoming, as there is nothing to relieve the outline severity at sides and front. However, they are considered ideal wind rebuffers, and with some women that is still the chief motive.

Visored caps similar to those worn by men are used almost exclusively by some women, as they are to be found in all the popular tints in pongee and mohair, in cloth plaids and mixtures, and in black, navy, tan and gray leather. Such shapes certainly lend a trim effect to feminine motoring garb, and the wide visor protects the eyes from the sun when no veil is worn.

Bonnets with brims slightly depressed over the brow are returning to favor with motoring headgear. In their present form they are a boon to elderly ladies whose dignity forbids them to adopt the frivolous looking Alpines and Panamas as well as the unspeakably co-



Traveling Veil Tied Four-in-Hand.

quettish toques so popular with the younger generation. Crush felts precisely like the "bush rangers" used for fishing and hunting excursions by the stronger sex are affected by very young girls who go in for the daringly unique. When they have poked their pink fingers into the high crowns to make them bowl shaped and tied the flapping brims over their ears with broad ribbons the effect of the improvised motoring hat is dangerously demure.

A Practical Garb That Is Serviceable.

Little hoods which strongly resemble night caps are made of mohair, satin and kindred rubberized fabrics, and designed to be buttoned into the inner side of the hat crown and let down whenever it is desired to protect the hair and the ears from dampness. Their lower edges are doubly shirred upon a ribbon which ties beneath the chin and over this may be turned the coat's storm collar so that only a small portion of the face need be exposed to the elements.

Attachable hoods are exceptionally popular with both men and women. Some of them, arranged to entirely cover the hat, are friar shape, others are tight-fitting like a knight's helmet and vastly uncomfortable, despite a generous number of air holes. Practically the best hood is wired to stand slightly away from the head and provided with a waist length shoulder cape, so that when seated the wearer is well protected from the rain.

To drape the automobile veil in an eminently becoming and entirely adequate manner is a task "not to be undertaken lightly and unadvisedly." No matter what may be the size of the hat, the veil should be three yards long and at least half a yard wide. As every woman knows, the first mission of the veil is to become the wearer and the second to protect the face and hair from dust and sun. To do this the back as well as the front of the head must be thoroughly covered while one is riding, but the gauze so arranged that it may be thrown aside quickly. To effect this, the veil would best be in two distinct sections, joining for the space of a finger's length over the hat crown, the two back ends being brought forward and knotted beneath the chin, and the others crossed at the back and allowed to float at will.

Veiling materials were never more bewitching. The crepe chiffons and chiffon cloths which wear interminably are to be found in all the desirable colors finished with plain, hemstitched or embroidered borders. Some of them have self-colored satin borders attached with white or black chain stitching. These borders are of three types. One shows a succession of graduated stripes, another a half-inch edging surmounted by a four-inch band and a third simply the very broad edge.

Self-colored disks finish many of the new veils. They are often run across the ends merely and are of uniform size, or they entirely border it in rows ranging from nickel to half-dollar dimensions.

Plaided veils are in gauze, sewing silk and chiffon of various tones, but the preference is for brown of a reddish cast, which does not attract the sun's rays, and for gray of a pale tone, which is supposed to become the average complexion. Navy blue is also in high favor, and, like green, is considered restful to the eyes, but smartest of all are those veils of pure white with wide borders of shaded tan or porcelain blue. The veil with a mica mask is worn by numbers of enthusiasts. This mask is about four by sixteen inches in size and set into the chiffon veil with machine stitching.

Picturesque Scarf Hoods.—Rainproof satin is much employed for the voluminous scarf hoods used as storm protectors of small hats worn with the English plaided tweeds and mixtures, as well as with the lighter rubberized fabrics. These hoods are of full width satin, shirred on a rubber band and drawn over the head, closing beneath the chin with shirrings and large buttons, whence the ends fall over the shoulders or to the waist. Chiffon mask veils, shirred across the front of the hat, fall loosely over the face.

The "Bride's" Traveling Veil.—Women who eschew the all-enveloping motoring coat in favor of the trimly tailored mohair or serge coat and skirt costume of the fashionable chevron stripe effects are adopting the enormously long and wide bridal motoring veils. These are usually of the handsome satin bordered white, gray or champagne chiffons, three by one and a half yards in size. One side is so draped over the front of the hat that it will protect the neck, and the remainder over the back of the hat, the ends crossed at the nape of the neck, then drawn loosely forward and knotted four-in-hand manner below the throat. When not in the car the wearer allows the veil to flow loosely from the back of the hat precisely as does the conventional wedding veil.

Practical Automobiling Garb.—Clan plaid silk, rubberized, is extensively used for automobile coats, which in their latest development show the singly box-plaited back, the narrow side gores and the wide arm-sized sleeves, slightly gathered all around. Broad biased bands simulating round yokes, punctuated with silk-covered, metal-bound buttons are much in vogue and turned-over collars and turned-back cuffs are deep and pointed rather than straight. With the dark-toned clan plaids are worn bordered chiffon veils matching the grounding of the coat. The veil pictured is side plaited at one end, drawn in over the crown's top toward the back and secured by the shaped straw band. The remaining end is then drawn from left to right over the face and attached to the back of the hat.

Adaptability of the Duplex Veil.—In no way is the duplex of four-ended veil more valuable than when it is necessary to veil a hat of unique shape, such as the pictured modified Gainsborough with irregular brim and dented crown. The joining shirring of the rear section is brought to the front of the crown and the ends drawn over the ears and knotted beneath the chin, while the forward section is draped over the face and the ends crossed at the back, thus firmly securing the hat. In this instance the natural colored straw of the hat matches the hue of the satin insets of the collar and cuffs of the taffeta coat.

Readily Adaptable Duplex Veil

MAINE BUYING AUTOMOBILES.

PORTLAND, ME., May 18.—Automobiles continue to grow in popularity in Maine, and it is now estimated that there are cars enough in the State, owned here and registered at the Secretary of State's office in Augusta, to represent an outlay of considerably more than $2,000,000. The total number of automobiles which have been registered in Maine since the law went into effect in 1906 is 2,443, and the number since the beginning of the current year, up to May 1, is 205. The total number of operators' licenses issued since the law went into effect is 2,847, and the number during the current year 215. The total number of motorcycles registered in the State is 259 and the number registered to date in 1908 is 31.

The movement for good roads in Maine is going steadily along, and from all indications, the stretches of bad places in the State's highways will in a few years be wholly eliminated. Visitors from outside of Maine are already remarking upon the improved condition of the roads. Highway Commissioner Paul D. Sargent of Augusta has been holding a series of meetings at many points about the State where the good roads question has been discussed. Farmers, selectmen and others interested have never failed to attend these meetings in large numbers and good results have always followed. The meetings are of an educative nature, open to discussion and many valuable points on road building and the construction of State roads have been gained in the course of his instructive campaign.

By a law of the State, any town may receive an appropriation for a State road, provided it will also appropriate a sum for the building and maintennce of it. The city of Portland the present year will receive $200,000 and a road has been laid out that will be on the direct route of tourists going through the State to points on either border.

SLIGHT DECREASE IN MARCH EXPORTS.

Though the value of the automobiles and parts exported from this country during the month of March, 1908, is slightly less than that of the corresponding month of 1907, the figures being $545,347 for the latter, and $539,388 for the present year, statistics issued by the Department of Commerce and Labor show that the gain during the past three years has been very steady and substantial. For the nine months ending with March, 1906, the total was $2,064,874; in 1907, this increased to $3,418,593, while the present year's figures are $3,601,211. A noticeable feature of the returns for the month of March, 1908, is an increase in the value of automobile parts exported from $51,922 in 1907, to $72,941. Despite the drop in the total, substantial increases are apparent to such automobile manufacturing countries as Great Britain, France, and Italy, the English imports advancing from $146,621 to $156,820, while the French took $81,083, as compared with $65,813 the same month a year previous, and Italy's total jumped from $27,024 to $45,842.

THIS FARMER USED AUTO TRUCK.

HARTFORD, Conn., May 18.—Even the farmers are taking to automobiles for utility purposes. A case in point is that of a truck gardener of a small town a short distance from Hartford. He uses a two-cylinder air-cooled Knox truck and hauls a load of produce that would put a horse to shame. The roads traversed are very good, so he has nothing to fear in this direction. Speed is a factor in that it makes a lot of difference whether he reaches the city market early or late, and with the truck he gets there in less time than was formerly necessary for the horse outfit.

"TAXILESS" TAXIMETER LATEST DEVELOPMENT

To meet the tremendous demand for taxicabs now existing in New York City, taximeters are being stuck on all kinds of cars, but the most amusing development noted was an improvised "taxi" on which the meter had no driving connection.

THE AUTOMOBILE CALENDAR.

AMERICAN.

Shows and Meetings.

June 25-27.....—Detroit, Third Annual Summer Meeting of Society of Automobile Engineers.

Dec. 31-Jan. 7..—New York City, Grand Central Palace, Ninth Annual Automobile Show, conducted by the American Motor Car Manufacturers' Association, with Exhibits by the Importers' Automobile Salon, Inc., Alfred Reeves, general manager, 29 West 42d St.

January, 1909..—New York City, Madison Square Garden, Ninth Annual National Show of the Association of Licensed Automobile Manufacturers. (Exact date to be announced.)

February, 1909. —Chicago, Coliseum and First Regiment Armory, Eighth Annual National Exhibition, National Association of Automobile Manufacturers. (Exact date to be announced.)

Race Meets, Hill Climbs, Etc.

May 23.....—Albany, N. Y., Hill Climb, Albany Automobile Club.

May 30.....—Boston, Readville Track, Race Meet, Bay State Automobile Association.

May 29-30.....—Minneapolis, Minn., 300-mile Endurance Run, Minneapolis Automobile Club.

May 30.....—Bridgeport, Conn., Sport Hill Climb, Bridgeport Automobile Club.

May 30.....—Wilkes-Barre, Pa., Giant's Despair Hill Climb, Automobile Club of Wilkes-Barre.

May 30.....—San Francisco, Endurance Run under the auspices of the Automobile Dealers' Association.

June 5.....—Jamaica, L. I., Straightaway Time Trials, Long Island Subway Celebration Committee, assisted by Long Island Automobile Club.

June 6.....—Worcester, Mass., Dead Horse Hill Climb, Worcester Automobile Club.

June 24-27.....—Chicago, 1,200-mile Reliability Run, Chicago Motor Club.

July 4.....—Lowell, Mass., 240-mile Road Race, Lowell Automobile Club.

July 7-8.....—Buffalo, N. Y., National Convention of the American Automobile Association.

July 9.....—Buffalo, N. Y., Start of the Fifth Annual A. A. A. Reliability Touring Contest.

Sept. 5-9.....—San Francisco-Los Angeles Reliability Run, Automobile Dealers' Association of San Francisco.

Sept. 14.....—Chicago, Annual Economy Run, Chicago Motor Club.

FOREIGN.

Shows.

May 17-31.....—Austria, Budapest Automobile Show.

May 17-June 2..—Moscow, Russia, International Automobile Exposition, Automobile Club of Moscow.

December.....—Paris, Eleventh Annual Salon de l'Automobile, Grand Palais, Automobile Club of France.

Race Meets, Hill Climbs, Etc.

May 1-31.....—Automobile Taxicab Competition, France, Automobile Club of France.

May 31.....—Russia, St. Petersburg to Moscow Race.

June 1-18.....—Reliability Trials for Pleasure Cars, Automobile Club of Great Britain.

June 14.....—Mount Cenis Hill Climb, for Voiturettes.

June 9-17.....—Touring Competition for the Prince Henry of Prussia Prize, Germany, Imperial A. C.

June 15-19.....—Scotland, Scottish Reliability Trials.

July 6.....—Voiturette Grand Prix, Dieppe Circuit (Automobile Club of France).

July 7.....—Grand Prix of Automobile Club of France, Dieppe Circuit.

July 13-17.....—Ostend, Belgium, International Race Week, Automobile Club of Ostend.

July 20-30.....—Ardennes Circuit Races and Coupe de Liederkerke, Automobile Club of Belgium.

Aug.....—France, Coupe de la Presse, Automobile Club of France. (Exact date to be announced.)

Aug. 29-30.....—France, Mont Ventoux Hill Climb, Vauclusien Automobile Club.

Sept. 1-8.....—French Voiturette Contest, auspices of "L'Auto."

Sept. 6.....—Bologne, Italy, Florio Cup Race, Automobile Club of Bologne

Oct. 11.....—Berlin, Germany, Gordon Bennett Balloon Race, Aeronautical Club of Berlin.

THE AUTOMOBILE

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POPULAR VOGUE OF THE TAXICAB.

What has been constantly predicted for the automobile for several years has now come to pass. The taxicab has arrived. True, there have been more or less evidences of the gasoline-driven public service vehicle during the past year, particularly in New York City, but both the pioneers as well as a very large percentage of the cars that have been in use from the first have been of foreign origin. Now the American maker has awakened to the possibilities of the town type of vehicle for either public or private use, and it is safe to say that there is scarcely an established American manufacturer to-day who has not tried his hand at turning out a few taxicabs.

Some of these did not require any great exertion on the part of their makers, to be sure, as they represent nothing more than one of the latter's stock chassis with a very much ready-made-looking landaulet body perched upon them. Others are special designs throughout that represent a great deal of work and study devoted to the problem of turning out a vehicle for this most strenuous form of service.

As conditions are at present, it is possible to reap large gross returns from the running of anything in the shape of a power-driven cab, but it is evident that only the vehicle which is built for this service can stand the racking and show a net return on the investment at the end of the year. For which reason, it is further apparent that many of the improvised cabs now running will fade from view before long and only those of sufficient merit to stand the test will prove dividend payers in the end. However this may be, it is certain that the present vogue of the taxicab will result in popularizing the automobile, to a greater extent than could possibly have been done in any other way in the same period of time. A highly interesting development in connection with these little vehicles has been their official inclusion in the commercial vehicle tests now being held in France. On this occasion they are being limited to alcohol as fuel.

* * *

ALLOY STEEL FOR AUTOMOBILE TOOLS.

A manufacturing opportunity that it is somewhat surprising accessory makers have not taken advantage of, concerns the demand that it would seem might be created for alloy steel tools. No automobile user of experience needs to be told that any investment in cheap tools is likely to be money worse than thrown away, nor does he fail to realize that the attainment of the highest possible quality in many of these useful articles is a problem as exacting in its demand as anything in the whole range of engineering.

Take the screwdriver, for example, on which ordinarily falls the brunt, not only of the most exacting sort of legitimate chiseling, wedging, punching, and driving operations, to which even the careful mechanic is sure to be forced by stress of circumstances to put it sooner or later. This tool in its width and thickness of blade is closely limited by the conditions of its normal use. Obviously, then, the only recourse is the objectionable and awkward sets of screwdrivers of many different sizes, or else the utmost possible improvement in the quality of the steel, which suggests at once that the finest alloy steels are none too good for an article that is now commonly made of altogether inadequate tool steel. What is true of the screwdriver applies equally to other tools, such as wrenches, spanners, and the like, the number necessarily carried making the matter of weight reduction alone an item of importance.

* * *

AUTOMOBILING'S WIDESPREAD ADVANCE.

When one glances through the list of events scheduled from one end of the country to the other—here an endurance contest, there a hill climb, and somewhere else a high speed race—he more accurately appreciates the widespread progress of the pleasurable necessity in these United States. Once upon a time to have suggested that soldiers in uniform could be utilized to guard the pathway for an automobile road race would have brought forth derisive smiles and prompt refusal. When one reads that in Massachusetts, Connecticut, and Pennsylvania hill climbs are scheduled with military guarding, and even in far away Oregon a road race is to have soldier-boy policing, and then, with Savannah still fresh in mind, the conviction is driven home that the battle of the automobile is practically won and its future progress will be attended with a great deal less opposition than has been shown during earlier and more unreliable periods. Certainly the motor-driven vehicle is demonstrating the reason of its being just as rapidly as the manufacturers distribute their product, which now finds equally great demand in city and country.

VANDERBILT CUP RACE SEEMS CERTAIN ON LONG ISLAND

THE next Vanderbilt Cup race seems certain to be run on Long Island. This fact became known through press dispatches from Worcester, Mass., telling of the awarding to the Hassam Paving Company of a contract for the building of a 60-mile stretch of roadway for the Long Island Motor Parkway, Inc., the completion of 10 miles of the roadway by October 1 being made a part of the contract.

When the bids of Savannah and other cities for the race have come up for discussion, Chairman J. D. Thompson, of the A. A. A. Racing Board, has invariably stated that it would be the policy of himself and his associates to hold the race near New York, provided that a course, either fenced in or guarded by soldiers, could be secured. The Racing Board, in announcing the rules for the Vanderbilt race, embodied in its bulletin the statement that the date and course would be announced on or before July 1. The chairman now reiterates this statement.

It can be safely assumed that adjoining roads will be made use of to enable the employment of whatever straightaway stretch of the Long Island Parkway may be available for the race. All statements as to the location of the stretch to be used, the details of its arrangement for racing purposes, and the building of loops for making the turns at either end, are, of necessity, at present mere guesswork.

To hold the Vanderbilt Cup race in the metropolitan district is generally considered logical and desirable. It had its origin in New York. The donor of the trophy competed for is a New Yorker. The representatives of the foreign cars, which comprise a majority of the contending forces, are also centered in New York. The metropolis of the country is its most important news center, and able to give to the contest the greatest possible publicity. In view of all this, it is naturally a matter of general gratification to learn that a course appears to have been finally secured on Long Island, the world-famed arena of former contests for the Vanderbilt Cup.

The figures supplied by Capt. William E. Hassam, of the company, place the total of the contract at $2,000,000. In rushing the 10-mile racing stretch to completion, he says that 30 carloads of cracked rock a day will be required. The contract was awarded following the laying of a sample stretch of roadway on Mr. Vanderbilt's Long Island estate.

FRANCE'S PROTEST OF VANDERBILT RULES.

Automobilists interested in racing, who are in a position to understand the ins and outs therewith involved are somewhat amused at the evident purpose of a certain A. C. A. contingent to "aid" the Vanderbilt Cup Commission in securing entries for the big American race.

Assuming to act as correspondent of the A. A. A. in the somewhat loosely organized international association of clubs, the A. C. A. failed to notify the national body that it had been obligated in any way to conduct the Vanderbilt race according to so-called international rules.

It is also a matter of record that A. L. Riker, a member of the A. A. A. Racing Board, deputized by that committee to consult A. C. A. official records, reported that he could not discover any correspondence whereby that club had bound the A. A. A. to observe international rules in the conduct of the Vanderbilt event. In view of the fact that Mr. Riker is a member of the contest committee of the A. C. A., his report was accepted without question.

Though failing to supply any information concerning the meetings at Ostend and Paris, the A. C. A. contest committee, of which Robert Lee Morrell is the chairman, gives widespread publicity to a letter of protest from the Automobile Club of France, taking exception to the "failure" of America to observe the so-called international rules to which the A. C. A. obligated (?) the A. A. A. in the running of the Vanderbilt race by its cup commission. Mr. Morrell also supplies for publication a copy of his letter sent to Jefferson deMont Thompson, chairman of the A. A. A. Racing Board and the Vanderbilt Cup Commission, notifying that official of the protest from France, and asking for prompt reply.

Interviewed, Chairman Thompson is quoted as follows:

"The Vanderbilt Cup Commission adopted its rules, with a full knowledge of the situation on the other side of the Atlantic, for reasons which seemed sufficient to it, and which were acceptable to the donor of the cup, W. K. Vanderbilt, Jr.

"I cannot exactly understand the reason for the Automobile Club of France making a protest. The club has had no official connection with the Vanderbilt Cup race for two years, and refused then to name an official team for the race. The entries that we had for the race were received from independent manufacturers and were made as individuals. The same is true of last year, when we had a number of entries for a race, and had to send them back. It will be true again this year. The status of the Automobile Club of France in the matter I fail to see, therefore. The rules are fixed, and will remain unchanged. The letters will be called to the attention of the Racing Board as a matter of courtesy merely. I also fail to understand why the protest mailed in France on April 18 should be delayed so long in reaching us."

THOMAS, PROTOS AND ZUST ONLY REMAINING SURVIVORS

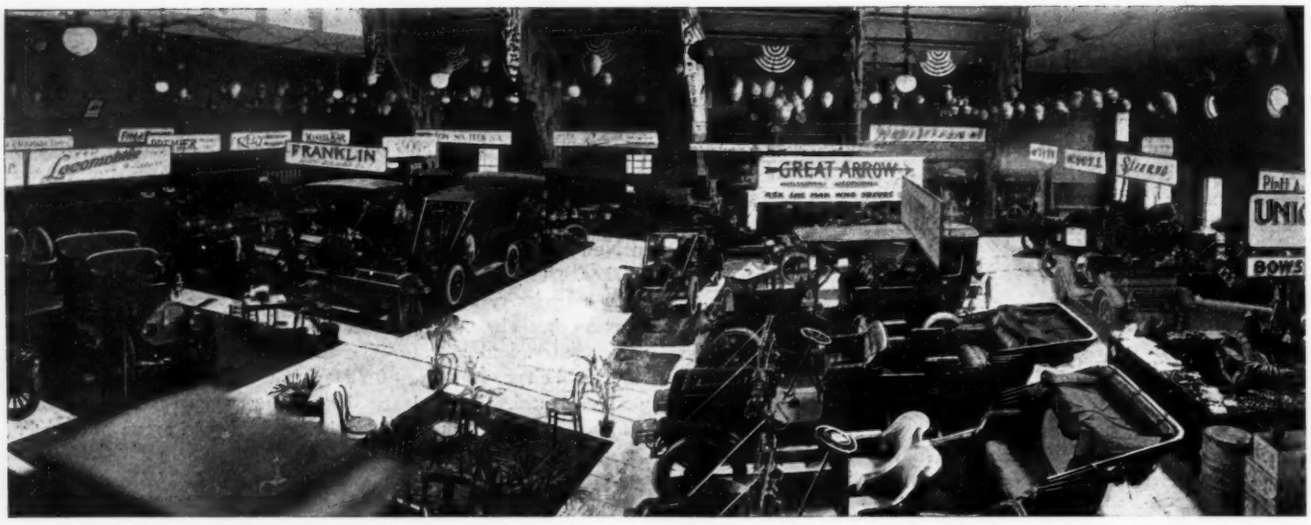
CABLES from Vladivostok to the New York *Times* are to the effect that everything was in readiness for the start across Siberia, to take place on Wednesday, May 20, these late advices also stating that the Zust will start with the Thomas and Protos. The Trans-Alaska-Siberian railroad has offered a prize of 5,000 francs to the car first to reach Tchita, while a similar prize has been offered by the Russian Automobile Club to the car first to reach St. Petersburg.

In addition to the confirmation of the announcement previously made that the De Dion car would be withdrawn at Vladivostok, it is now stated that the Zust has been formally withdrawn from the round-the-world race, thus leaving the American and German cars the two remaining contestants. Under the terms of the arrangement recently decided upon by the French committee, the Germans have to allow the Thomas thirty days, so that while both will undertake the Siberian trip together, the Protos will be a month behind in point of time.

According to a cable to the New York *Times*, the Thomas car arrived at Tsuruga, Japan, en route for Vladivostok on Friday last, May 15, after a two-days' trip across the island.

Godard Tells "Wonderful" Tales in Paris.

PARIS, May 10.—Another of the "brave" New York-Paris drivers has returned home, and is now thrilling his compatriots with stories of adventures in the wilds of the United States. Though he may not have seen much to the west of Chicago, Charles Godard has no lack of stories to relate on the round-the-world tour, which he and his Motobloc undertook so joyously. Stripped of their verbosity, they amount to "bad roads, bad food, scant hospitality."



How Dreamland Rink Was Utilized by the Automobile Dealers' Association of Seattle, Wash., for Its First Show, April 22-25.

TO HAVE MILITIA-GUARDED RACE.

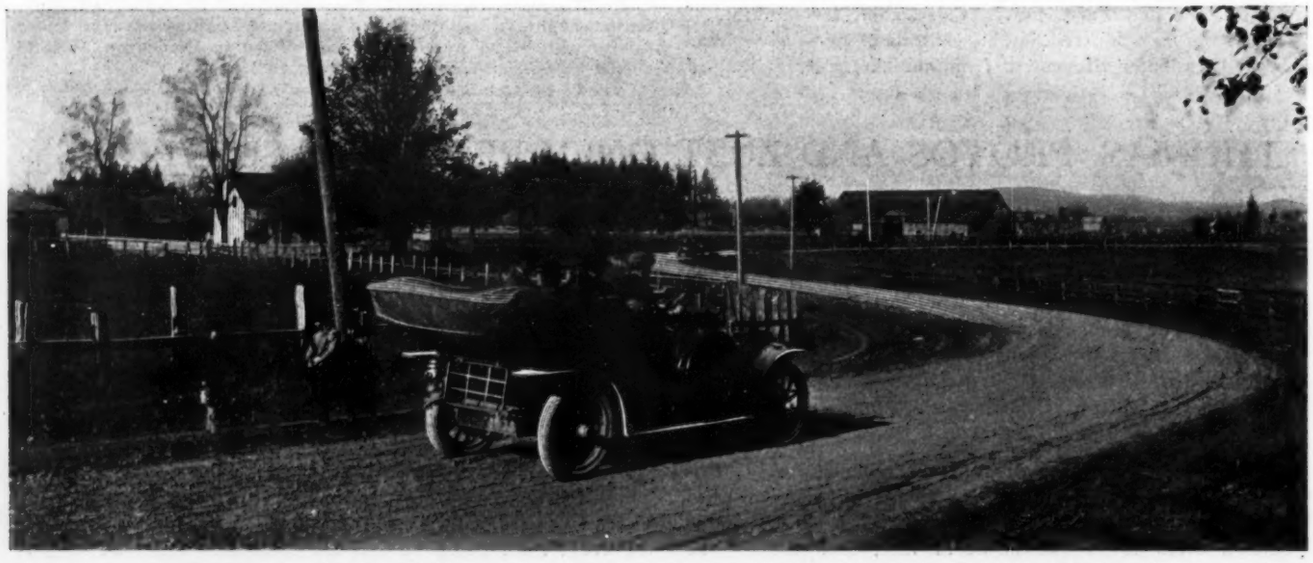
PORTLAND, ORE., May 12.—During the Rose Festival week, which is an annual event here, Portland is going to show the country that successful road races may be held on the Coast, as well as in the East. Thursday, June 4, is the date set for the event, which is to be a 100-mile run of 7 laps, the latter measuring 14 miles each. There will also be a 50-mile race over the same course. Up to the present writing, there are no less than 56 entries for the big event, the majority of the cars being entered by the local representatives of the manufacturers, though there are a few private cars in addition.

E. Henry Wemme, a pioneer autoist of this city, has offered a $500 silver cup to the winner of the 100-mile race, which will be run under the auspices of the Portland Automobile Club. The course will be effectively guarded by the Third Regiment, Oregon National Guard, under command of General W. E. Finzer and Colonel Charles N. McDonnell. The soldiers will be armed and in full uniform, and the Oregonians are setting out to show the country and the world at large that they know how to hold a big event by providing proper protection.

The course lies through a most picturesque bit of country adjacent to the city, comprising two of the main roads lined with fruit farms and suburban residences. It is a section easily reached by the interurban service of the street car lines. Eastern drivers and agents now here, who have seen the Vanderbilt and Briarcliff courses, say that the roads selected here are equal to anything that has been used for the purpose in the East. There are quite a few sharp turns that are dangerous, but the work of widening the road at these points and providing a proper banking has already been undertaken.

The start and finish are to be at a grandstand two miles from the Twelve Mile House, which is run by Fred T. Merrill, an old-time bicycle rider. This stand is being erected by the Portland Automobile Club and is to have a capacity of 5,000 people. The course runs through Russellville and Gresham, but no controls will be required. It includes one six-mile stretch of perfect straightaway that is the finest roadway to be found anywhere in the West. Owing to the manner in which the land is laid out in sections, the course is practically a square along the base and section line roads. But in spite of this feature, it possesses the usual characteristics of a road racing course, in that it has a typical "S" turn, located immediately east of Gresham hill, and one or two very bad corners, the worst of which is situated where the Base Line road leads into the Russellville thoroughfare, while there are also several hills.

The Wemme Cup is offered for competition, and must be won three times in succession.



The "S" Turn on Section Line Road near Portland, Ore., which Will Test Chauffeurs' Skill and Nerve.

Climbing "Jacob's Ladder," in the Berkshires, a Hill Famous for Strenuous Experiences Among Automobilists.

FROM ALBANY TO BOSTON IN ONE DAY ON THE A.A.A. TOUR

By LEON MYRON BRADLEY.

AFTER fifteen days of mud plugging, climbing mountains, plunging through small streams, making detours to escape steam rollers and torn up roads, filling up ditches with rocks, fence rails, and planks, and also speeding over mile after mile of the famous highways of Massachusetts—the Premier Pathfinder has laid out eight days of the 1908 A.A.A. tour, making a total of 1,059.5 miles, the odometer, however, showing 1,361 miles. The difference is the distance traveled by the Premier on wrong roads, etc. The eight days as now laid out are:

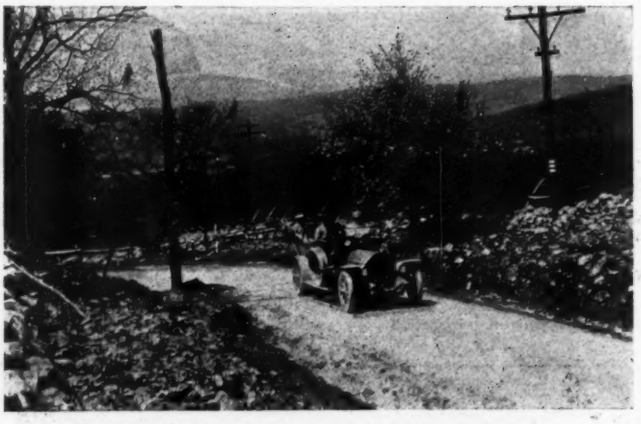
First day—Buffalo to Cambridge Springs	117.4	miles
Second day—Cambridge Springs to Pittsburg	110.2	"
Third day—Pittsburg to Bedford Springs	106.4	"
Fourth day—Bedford Springs to Harrisburg	107.3	"
Fifth day—Harrisburg to Philadelphia	133.5	"
Sixth day—Philadelphia to Milford	132.0	"
Seventh day—Milford to Albany	158.5	"
Eighth day—Albany to Boston	194.2	"

The Pathfinder had laid out a route from Harrisburg to the Delaware Water Gap eliminating Philadelphia when ordered back to Harrisburg, a distance of 130 miles,—to lay out a new route from that city to Quaker Town.

The fifth day's run of the tour as mapped out will undoubtedly be one of the easiest of the whole tour. Leaving Harrisburg the route is along the Susquehanna river to Steelton and past the Steelton mills and furnaces and by the mammoth Pennsylvania Steel Works. The fifth day's run was the first that the six-cylinder Pathfinder was enabled to make any fast time, and it was photographed beside a six-mule combination. It was the first day that we were blessed with sunshine since leaving Buffalo. The roads are excellent and are practically macadam the entire distance with the exception of a few stretches of clay. The clay road, however, is in excellent condition and fast time can be made by the contestants. The route selected is zigzag. It includes Marietta, Lancaster, Reading, and Pottstown, and is far superior to that which was laid out direct from Harrisburg to the "Gap." There are practically no hills to speak of, and the only drawback is over the Marietta-Lancaster pike, where many water-breakers predominate and about one-half dozen toll-gates will be passed through. The rubber raincoats, sweaters, and other heavy clothing were packed in the suit case, and replaced by the lightest of clothing and dusters. A limit of six or seven hours will probably be the maximum of this day's run. The tourists should begin to arrive at Philadelphia about 2 o'clock, which will give them ample opportunity to rest. The Quaker City Motor Club is enthusiastic because Philadelphia has finally been chosen as a stopover. The club's headquarters are in the Walton, where the tourists will remain over night and be entertained with a smoker.

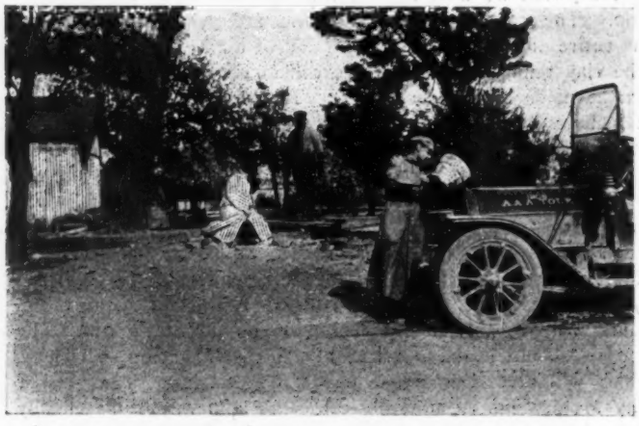
One of the most picturesque runs is that between Philadelphia and Milford. This will take the contestants through Allentown, Bethlehem, Nazareth, Easton, and through the Gap. There are a variety of roads, but macadam predominates. The mud-plugging trip at this point turned into a dust-eating one, as very

Picturesque Country After Leaving Port Jervis, Near Unionville, N. Y., en Route to Goshen.



Coming Up Butterback Mountain in the Catskills.

little mud was found, but much time was lost in crawling over recently laid trap rock, dodging steam rollers, and mule teams loaded with road-making material. The scenery through this part of Pennsylvania will well repay the participant in the tour for his trouble. Few spots in America vie with Delaware Water Gap in picturesque effect, and the mountainous surroundings are complete in harmony and effectiveness. Much has cer-



Both Pathfinder and Occupants Stop for Drink.

tainly been gained by the decision to go around New Jersey instead of across.

From Philadelphia to Three Churches, a distance of 93 miles, the tourist will find some of the best highways in Pennsylvania. It is said that all the roads which are now torn up and in process of construction will be finished before the tourists arrive in this section. Several stretches of brand new macadam will have no water-breakers, but on the Allentown pike from Philadelphia there is a great quantity of them. On this pike there are eight or ten toll-gates, the tolls ranging from 3 to 10 cents. If the route book is not closely followed, many of these toll-gates are liable to be overlooked, due to the smallness of the signs which are set in inconspicuous positions.

Almost Stalled in the Mud Near New Baltimore, N. Y.

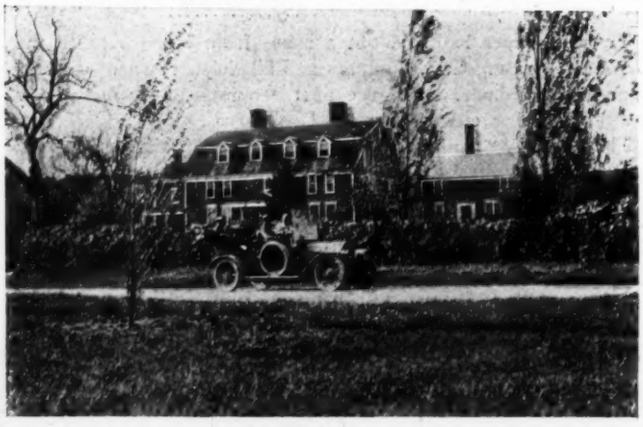
At Easton the course lies parallel with the Delaware river which is followed much of the way to the Gap. Three Churches is on a hill, and from it the Gap can be seen seven miles away, with beautiful intervening valleys. The scene is inspiring, and at each leap of the big six-cylinder the scenery grew better and more beautiful.

From Portland to the Gap, a distance of five miles, the road becomes very narrow and winding. On one side are great tow-

Approaching "Jacob's Ladder" in the Berkshires.

ering mountains with overhanging cliffs, while on the other is the D., L. & W. R. R., then the Delaware river, and beyond are other peaks. The two highest peaks which form the gap are Mt. Mimsi and Mt. Tammany.

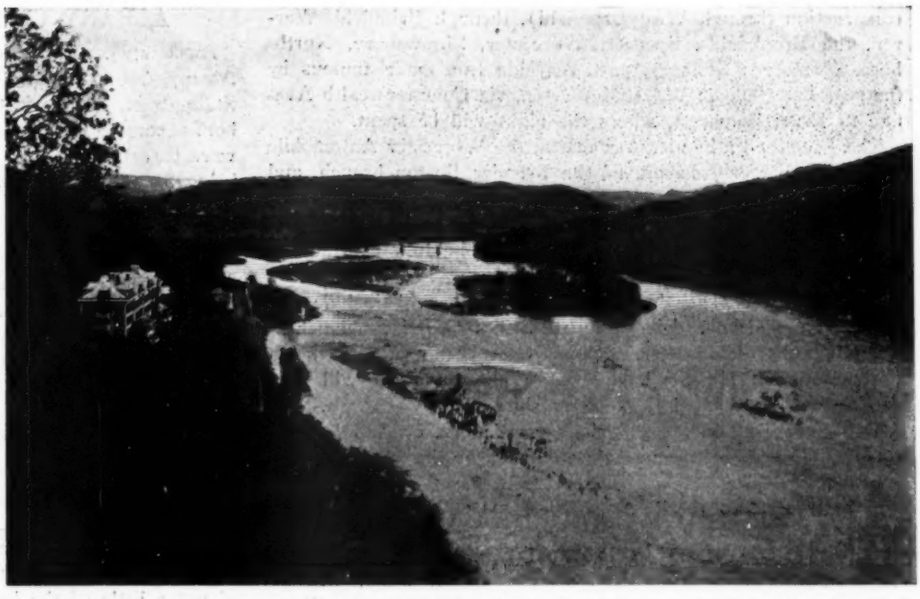
There is no question but that the run from Milford to Albany, a distance of 158.5 miles, will be one of the most trying



Longfellow's "Wayside Inn" at Sudbury, Mass.

of the fourteen days' contest. Up to Boston it is the hardest yet laid out. The principal towns through which the route goes include Port Jervis, Middletown, Goshen, Newburg, Kingston, Saugerties, Catskill, and Athens. The roads from Milford to Albany are over a combination of macadam, clay and dirt, interspersed with many twists and turns and steep hill climbing. The only speed trap which the Premier Pathfinder has encountered since leaving Buffalo is a mile south of Port Jervis after leaving Milford. At Milford we were warned by hotel proprietors and others that an obnoxious constable secured two dollars for each arrest over the best macadam roads between Milford and Port Jervis. Heeding the warning we crawled at a snail's pace over this course and were not bothered.

At Port Jervis the regions of oil, coke, coal, and steel were left behind, and the great Empire State was entered. It was with a thrill of joy and satisfaction that the terrible roads of Western Pennsylvania, which we had ploughed through for over a week, were a thing of the past. After leaving Cutterback, mountain climbing was renewed and continued to Otisville for four miles. This is one steady climb with many sharp and dangerous "S" and hairpin turns. The roads are rocky and very narrow.



Where the Delaware River Forges Its Famous Water Gap Through the Blue Mountains.

At Newburg the Hudson river comes into view, and it is unquestionably the grandest river that will be seen by the contestants. It was our intention to cross the river from Newburg and continue through Poughkeepsie to Albany, but upon reaching Newburg we found the only way to cross the Hudson was by ferries, and, as this would necessitate a delay to the tourists, it was finally decided to continue on the west shore. A noticeable thing which was brought forcibly to our attention in New York State was the utter lack of signboards and a great quantity of forks and crossroads. In this respect Pennsylvania is far superior to the Empire State. Many hours were lost in New York State groping our way about on country roads, stopping the car, and inquiring the way from farmers and team drivers.

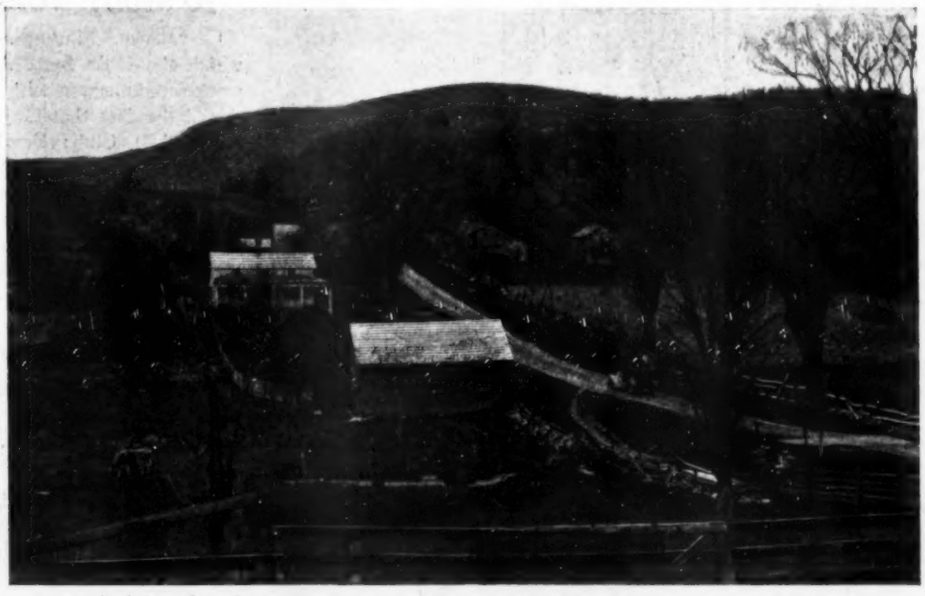
When Port Ewen was reached, 1 1-2 miles from Kingston, the ferry proposition again cropped up, which necessitated a detour of five to six miles into Kingston. The roads up to Kingston were in very good condition, but after leaving Kingston the roads were as bad, and in some places worse, than anything the big Premier had ploughed through. Water was running in rivers by the roadside, and the soft clay roads were nearly impassable. We were warned by farmers that the roads were in fearful condition, and one of them jokingly made the statement that he would bet his best team of horses against the Pathfinder that we could never reach Albany. Like the farmers of western Pennsylvania, those in this part of the country "repair" the roads by throwing the sod into the middle of the highway, leaving it there to be trampled down by the traveler.

In the vicinity of New Baltimore we were ditched for the first time For two hours we worked at filling up the ditch with rocks, rails from the nearby fences, and boards borrowed from a farmhouse a half a mile away. For a time it looked as if nothing but horses could get us out of the quagmire. But by stubborn persistency driver McNamara landed the car at the top of the hill. Chains were of little use in the soft clay, and the rear wheels spun around inside the chains.

Between Kingston and Albany the Catskill mountains were continually in sight on one side, while the beautiful Hudson was on the other.

There are two predominating features of the eighth day run from Albany to Boston, a distance of 194.2 miles. Albany is left by driving over the drawbridge and into Renssaeler. The contestants are liable to be held up some time at this drawbridge, and the Premier Pathfinder had to wait about 20 minutes. For eight miles the route is over macadam roads and then over common dirt and clay roads. A direct line is taken to State Line, into Massachusetts. If for no other reason, the Pathfinders knew they were in Massachusetts because of its beautiful State highways. With the exception of a stretch of about five miles in the vicinity of Jacob's Ladder, the finest roads in the United States are gone over.

There are few tourists who do not know of the beauty of the Berkshire hills. There seems to be something totally different in the Berkshire scenery as compared with that of the Allegheny regions. The route from State Line to Boston is considerably different than that generally used by autoists. It leads through West Stockbridge, Stockbridge, East Lee, Chester, over Jacob's Ladder, Huntington, Fairfield, Westfield, West Springfield, across the Connecticut river into Springfield, Wilbraham, a detour of six miles to Three River (due to road



Near State Line, Which Marks the Boundaries of New York and Massachusetts.

construction through West Brimfield), through Brimfield, Warren, the Brookfields, Spencer, Worcester, Shrewsbury, Northboro, Marlboro; Sudbury, past Wayside Inn, made famous by the poet Longfellow; Wayland Weston, via Commonwealth Avenue to Hotel Somerset, where the night will be spent.

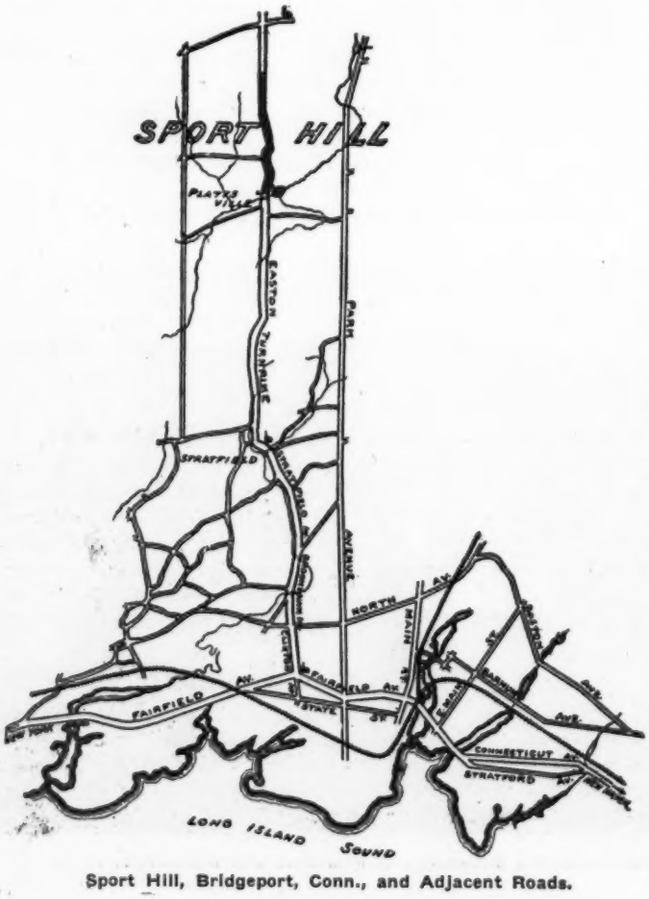
The Premier Pathfinder was met at the Worcester Automobile Club by Manager Johnson, of the Premier Boston branch, and J. C. Kerrison, of the Bay State Automobile Association. At Norumbega Park a delegation of three cars was lined up along the roadside awaiting the Pathfinder car. The four cars piloted us to the Hotel Somerset.

It is probable that the run from Boston will include the famous North Shore drive through Prides Crossing, Manchester, Magnolia, Gloucester, around Cape Ann and north to Portsmouth, N. H., Portland, Me. While the route will take the Pathfinders through New Hampshire and Vermont, with a probable finish at Saratoga Springs, New York, or Buffalo, it is not possible at this time to state what will be the exact route.

BIG PRIZES FOR SPORT HILL CLIMBERS.

BRIDGEPORT, CONN., May 18.—Preparations for the annual hill climb of the Automobile Club of Bridgeport, which will be held on Sport Hill May 30, are complete. The course will be guarded by soldiers, and the speed flights will be recorded by an electric timer. The value and importance of the prizes for the star events on the card promise to attract a noteworthy field of crack climbers. The Board of Trade cup, which has been dubbed "the local pride trophy," will be awarded to the winner of the free-for-all. The Robert B. Crauford cup will go to the successful owner, who must also be a pilot, in the amateur class. Henry D. Miller, vice-president of the Bridgeport Vehicle Company, builder of bodies, has also put up a trophy. It will be raced for in the class for cars listing over $4,000.

An executive committee, made up of Ralph M. Sperry, Frank T. Staples, and F. W. Bolande will have charge of the climb.



Sport Hill, Bridgeport, Conn., and Adjacent Roads.

ALBANY CLUB TO HOLD HILL CLIMB.

ALBANY, N. Y., May 18.—At the regular monthly meeting of the Albany Automobile Club, which was held at the clubhouse, 375 State street, last week, the conditions governing the 1908 sealed-bonnet contest for the McClure cup, as decided by the committee, were passed upon. All entries must be in by June 13, the fees being $3 per car and $1 per passenger. The route will be the same as that of the fourth annual tour of the club, and the running time each day will be from 9:30 A.M. to 5 P.M. John P. Randerson is chairman of the McClure cup committee, and the event is limited to members of the club.

The club will hold its first hill climbing contest May 23, on Menand's hill, the entry fee being fixed at $2. Twelve events are scheduled, and a silver cup will be awarded to the winner in each. The classes include runabouts selling from $1,250 or less, to $2,500; free-for-all runabouts; touring car events for cars selling from $850 or less, to $3,000; six-cylinder cars; steam touring cars, and a free-for-all touring cars.

TO HUNT JERSEY'S GRAFTING JUSTICES.

NEWARK, N. J., May 19.—Believing that graft is at the bottom of not a little of the holding up and fining of automobilists by county constables and justices of the peace for alleged speed violations, the New Jersey Automobile and Motor Club will shortly begin a still hunt for the grafters. There is more than a mere impression prevailing that these rural minions of the law fail to make return of the full amount or all of the moneys paid over to them for fines and costs for alleged breakages of New Jersey's comprehensive laws. The inducement to make arrests and impose fines with such an object in view is manifest.

A. B. Le Massena, the club's secretary, has hit upon a clever means of tracing these defalcations. He is preparing cards to be sent to the members of his and other clubs, with the request that in case of an arrest and fine the cards be filled out, giving the full particulars of the case and especially the amount of the fines and the costs paid. The information will be confidential. At intervals Mr. Le Massena will go to Trenton and look over the records of the Department of Motor Vehicles comparing his reports of money paid with the amounts actually turned over to the State. Whenever there has been a withholding of the money, the club will wait for the expiration of the time limit, and then start criminal prosecution under the law making the withholding of the money a misdemeanor.

TO STUDY WORKINGS OF BAY STATE LAW.

CLEVELAND, May 18.—To illustrate the thoroughness with which the Ohio State Automobile Association is taking up the work in connection with the new motor vehicle bill, may be mentioned the fact that C. J. Forbes, Jr., secretary of the Cleveland Automobile Club; Secretary of State Carmi Thompson, and State Registrar of Automobiles Galey have left for Massachusetts to study the workings of that State's bill. The Ohio measure was modeled after this bill, and the local authorities figure that the best thing they can do is to study the actual working of this measure. In the neighborhood of a week will be spent in the East by the three men. It is also probable that Mr. Forbes will go on to New York to see officers of the A. A. A.

LELAND'S STEARNS WRECKED AT SAVANNAH.

SAVANNAH, GA., May 18.—The No. 7 Stearns car that Leland drove in the races here in March last went into a ditch at high speed on a part of the course not far from the city line last week, and Ross Geurard, who was at the wheel, as well as the three friends who were with him in the car, had a very narrow escape. No one was injured, outside of a miscellaneous collection of bruises which did not require a surgeon's attention, although a telephone message had quickly brought an ambulance, a corps of detectives and the chief of police to the scene.

WHAT IS GOING ON AMONG THE CLUBS

JOYCE OF MINNESOTA DESIGNS EMBLEM.

MINNEAPOLIS, MINN., May 18.—President Frank M. Joyce, of the Minnesota State Automobile Association, is responsible for the designing of an emblem that ultimately may be adopted by all the State associations of the A. A. A. The emblem combines the names of the National and State associations, and also the name of the city where the club is located. It is particularly fitted for use on the radiator, though it can be otherwise shown on the car if desired. The displaying of an emblem of this character by all the automobilists throughout the country unquestionably would call attention to the magnitude of the national body and the existence of State associations and local clubs. President Joyce was recently re-elected as the head of the Minnesota State Automobile Association, which is in a most flourishing condition and gaining rapidly in membership and influence.

GRAND RAPIDS CLUB ALIVE AND PROGRESSIVE.

GRAND RAPIDS, MICH., May 14.—A few irresponsible automomobile drivers are putting the Grand Rapids autoists in such ill repute that the club at its last meeting decided to try a new plan to stop reckless driving. Instead of leaving the matter entirely to the police, it was decided to appoint a "police" committee, consisting of three prominent men, to investigate the cases reported, and, if the evidence warrants, they will swear to the complaints personally.

Active preparations are being made by the club for the entertainment of the visitors at the State convention of the A. A. A., which is to be held here during the last week in May. A delegation from Grand Rapids will go to the Buffalo convention in July. The membership of the club at its last meeting was reported as 214, and a strong effort will be made to reach the 500 mark.

LOWELL CLUB'S RACE TO BE 250 MILES.

BOSTON, May 18.—The Lowell Automobile Club has decided to lengthen its Fourth of July race from 200 to 250 miles. The following chairmen of committees have been appointed: Patrolling the course, Captain Gardner W. Pearson, company C, Sixth regiment, M.V.M.; publicity, Frank S. Corlew; finance, Humphrey O'Sullivan; course, Harry H. J. Read; transportation, Charles J. Wier; program, Burton J. Wiggin; hospital corps, Dr. J. A. Gage; options for racing camps, Jesse H. Sheppard. Entries expected include Thomas, Apperson, Stearns, Renault, Panhard, Bianchi, Simplex and Lozier. The club will provide racing camps and otherwise take care of the racers. Alonzo G. Peck, of Boston, the veteran race starter, will be asked to officiate as starter.

WILDWOOD IN JERSEY TO HAVE STRAIGHTAWAY.

WILDWOOD-BY-THE-SEA, N. J., May 18.—At the annual meeting of the Motor Club of Wildwood, held last Wednesday night, authority was given the contest committee to go ahead with preparations for the usual Fourth of July speed tournament on Central avenue boulevard. The annual election resulted in the choice of Philip P. Baker, president; Evans G. Slaughter, vice-president; V. G. Reynolds, secretary; J. Thompson Baker, treasurer; H. L. Hamersley, racing secretary; Thomas S. Goslin and John Bright, trustees.

YORKERS OF PENN. ARE BUSY THESE DAYS.

YORK, PA., May 18.—The York County Automobile Association at its annual meeting decided to have an endurance run and races for members, and agreed to assist ten autoists, who were arrested for scorching, in their fight at court. It was the largest attended and most enthusiastic meeting ever held by the association, and every member was loud in his denunciation of Constable Doll, who has made himself conspicuous by prosecuting ten autoists for exceeding the speed limit on the famous Gettysburg turnpike leading to the Gettysburg battlefield.

Thirty-eight new members were elected, and there were fifty applications for membership received. John Kissinger, of this city, announced that the *Gazette* had offered a cup to the winner of an endurance run to be started from this city, and it was decided to have such a contest later in the summer. Stuart B. Lafean, son of Congressman D. F. Lafean, who has gained a reputation as a race driver, was made chairman of the committee on tours, races and contests. Thomas J. O'Neil, of Hanover, and Thomas Myers, of York, are the other members of the committee. The association decided to hold a tour to the Hanover Country Club at Waldheim on May 24.

BROOKLYN TO CELEBRATE ORPHANS' DAY.

BROOKLYN, N. Y., May 20.—The Long Island Automobile Club's Orphans' Day committee has proved a hustling one. It has chosen Wednesday, June 10, for the annual auto outing for the children of Brooklyn's orphanages. Luna Park will again throw open its doors to the little ones. The Messrs. Feltman, who last year provided an excellent luncheon at cost, have generously offered this time to feed 800 children free. This was the number taken care of last year. The committee wishes this year to provide for 1,400, and has sent out return postal cards, asking that members authorize the treasurer to charge their accounts with $2 each to feed the added 600. The committee is made up of Frank G. Webb, chairman; Charles C. Cluff, W. P. Richardson, Louis T. Weiss, and W. T. Wintringham.

SCHENECTADY CLUB TO TOUR TO BUFFALO.

SCHENECTADY, N. Y., May 19.—Club tours are now occupying much of the attention of the Schenectady Automobile Club. At its last meeting it was decided to have a run to Buffalo in July to attend the Good Roads and Legislative Convention, and be present also at the start of the Glidden tour, whose participants will also be met by a club caravan at Saratoga. Arrangements for a run to Saratoga on May 31 were also made. Twenty members will make the trip.

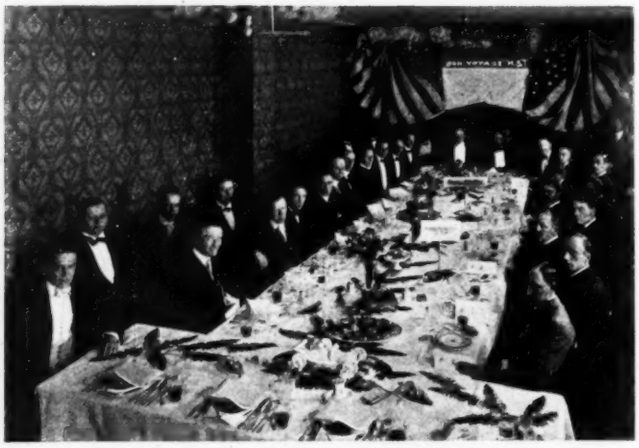
BALTIMORE PREPARING FOR ORPHANS' DAY.

BALTIMORE, May 18.—Arrangements are being made by the members of the Automobile Club of Maryland for the annual Orphans' Day automobile outing, June 10. C. Howard Millikin, chairman; Dr. H. M. Rowe and Frank W. Darling, the committee in charge of the outing, through E. A. Dolle, secretary of the club, have sent requests to 1,149 automobile owners in Baltimore and vicinity, asking them to loan their autos that day.

TWIN CITIES IN OHIO ORGANIZE CLUB.

UHRICHSVILLE, O., May 19.—The Twin City Automobile Club was organized last week. It embraces Dennison and Uhrichsville, and starts with a charter membership of twenty-four, though a roll of fifty is expected within a very short time. The officers chosen were: President, C. L. Graves; first vice-president, C. O. Romig; second vice-president, A. R. Lanning; secretary-treasurer, Alexander Robinson.

Mrs. Teape and Daughter and Their Waltham Buckboard.



Where Guest of Honor Houpt and Friends Sat at Table.

FROM PORTLAND, ME., TO PORTLAND, ORE.

PORTLAND, Me., May 16.—On Tuesday, May 12, at noon, there saw started from Portland, the first trans-continental trip ever begun from the Forest City. The trip as planned will cover a distance of four thousand miles, and will take the whole Summer if necessary. Those who started on the long jaunt were Mrs. E. E. Teape and her daughter, Mrs. Vera McKelvie, of Sands Point, Idaho. The route of the autoists will end at Portland, Oregon, and will pass through the following cities: Boston, Springfield, Albany, Syracuse, Buffalo, Cleveland, Chicago, Des Moines, Cheyenne, Salt Lake City, Ogden, Boise and Baker City to Portland, the destination.

This trip was not the first the two have made, for last year they made a trip from Chicago to Denver. They are thoroughly acquainted with the West, and realize the difficulties which they will encounter. The journey is not in any sense a speed contest nor an endurance one. Mrs. Teape has driven a Waltham buckboard for several years, and in this make of car will make her trans-continental trip.

NEW YORK TRADE'S CARNIVAL BANQUET.

Harmony, cooperation, and organization, as valuable factors of success in the retail automobile business, were appropriately dwelt upon by most of the speakers at the banquet given to newspaper men by the subscribers to the fund of the carnival promoted by the New York Automobile Trade Association. The function took place at the Brevoort Hotel last Saturday night. The social and fun-making feature of the affair was much more conspicuous than is usual at trade dinners. There were singing and jollity galore, and, altogether, the affair had the merry swing of a fraternity function. All this intimate commingling of the good fellows of New York's "automobile row" had its foundation in thus getting together for the promotion of the recent carnival.

A business meeting was made a part of the prandial gathering. Most important action was taken in the passage of resolutions declaring for another carnival next year, placing it under the management of the former committee of hustlers and again choosing for chairman Gen. John T. Cutting, whose offspring the spring opening celebration really was.

The report of the carnival committee showed that $8,655 had been subscribed by 87 concerns, made up of 24 subscriptions of $200 each, 21 of $100, 18 of $50, 23 of $25, and 1 of $10. To this was added $870, received from entry fees to the hill-climb. The balance, $347.45, was generously spent on the dinner.

Among the speakers were Gen. John T. Cutting, H. M. Duncan, O. J. Bechtel, J. C. Wetmore, L. H. Perlman, Harry Caldwell, Alfred Reeves, E. S. Partridge, Orrell A. Parker, Lawrence Hardy, A. G. Batchelder, Robert Lee Morrell, Alexander Howell, W. J. Morgan, Alex. Schwalbach, Peter Fogarty, Al. Camacho, and Senator Thomas H. Dunn, of Monroe County, N. J.

A BON VOYAGE BANQUET TO HARRY HOUPT.

By way of bidding Harry S. Houpt bon voyage, and also wishing Louis Strang and John B. Marquise good luck in their quest for Grand Prix honors with the Thomas car, the selling staff of the Harry S. Houpt Company tendered the "easy boss" a banquet at the Hotel Marseilles, New York City, last Thursday evening. Mr. Houpt sailed on the *Lucania* yesterday, and on the same day the car and its full crew took passage by the *Adriatic*. All are to meet at the training quarters Mr. Houpt will engage on the Dieppe course.

Fred J. Titus, who acted as toastmaster, let no man escape. Every one had to get up and speak his little piece of tribute to the guest of honor, and good wishes for the success of the car and its crew. The pluck of E. R. Thomas in tackling the foreigners with a stock car, rather than to make good his entry was complimented, and the "live wire" part of Harry Houpt played in securing Strang for a driver, and his enthusiasm in agreeing to go over himself to manage the outfit, were justly and right royally extolled. The guest of honor responded with a modest expression of hope that the Thomas pilgrimage would not be in vain, coupled with confidence that the car ranked among the best of the American stock product.

"Le Gavroche Americain," as the French have already dubbed Strang, a title whose application will be understood by readers of Victor Hugo, in his speech, said he was sure he had a good car, and promised to do his best to land it near the front.

John E. Bowles and Henry G. Vogel, of the Harry S. Houpt Company, were made joint guests of honor, and made to respond to toasts. Mr. Bowles wanted everybody to forget that a Thomas car was going over, and bear in mind only that it was rather a case of an American car striving to uphold the honor of the United States against the foreigners. Edgar M. Houpt, who is ill, was given a cheer over the telephone. At one point the room was darkened, and "Bon Voyage, H. S.," blazed forth in electric letters.

Theodore Sheldon was the most active spirit in the arrangement of details of the successful banquet. His fellow hosts were Fred J. Titus, A. D. Frost, R. D. Willard, F. G. Youngs, F. K. Bowen, A. S. Robinson, F. D. Garringer, H. M. Pyke, and Montague Roberts.

M'CORMICK'S OLDS WAS NOT THE CAR.

BALTIMORE, May 18.—In the report of the Maryland Sealed Bonnet contest, which appeared in THE AUTOMOBILE recently, it was stated that the Oldsmobile driven by A. L. McCormick stopped in the mountains and began to slide down a bad hill backwards, narrowly avoiding a collision with a Thomas car following. Investigation by the officials in charge of the event proved this to have been erroneous, a mistake having been made in the number of the car to which this happened.

FRANKLIN SCORES IN DELAWARE ROADABILITY.

WILMINGTON, DEL., May 16.—Frank L. Connable, who is connected with the DuPont Powder Company, and an enthusiastic autoist, enjoys the distinction of having won the first roadability run of the Delaware Automobile Association, which took place to-day over a 45-mile course, with the court-house as the starting and finishing point. The course led through Kennett Square and West Chester, Pa., partly over mud roads, for it had rained the day before, and partly over pike roads.

The committee having the arrangements in charge had fixed 3 hours 29 minutes as the time in which the run could be made, this liberal allowance being for the benefit of the low-powered cars, the run being open to all. Mr. Connable, who drove a Franklin touring car, made the exact time, and was awarded the handsome loving cup offered by the club as a prize. The next nearest was H. S. Lane, of Philadelphia, in a Thomas runabout, 3 hrs. 28 min.; and third was Robert S. Glover, of Wilmington, in a Maxwell touring car, 3 hrs. 34 min.

The fastest time was made by J. R. Richardson's Mitchell touring car, operated by Elmer Fisher, which covered the distance in 2 hrs. 27 min. Thirty-four were entered, and thirty-two started, all finishing except two, which met with mishaps.

TEN PERFECT SCORES IN JERSEY RUN.

PATERSON, N. J., May 18.—Of the even dozen cars that started in the 100-mile, non-stop, sealed-bonnet contest, held under the auspices of the North Jersey Automobile Club here last Friday, no less than ten of the contestants went round the full length of the course in the specified time of 5 hours 15 minutes.

The successful cars to finish were: G. A. Post's Winton, J. Hengeveld's Stevens-Duryea, J. Schofield's Corbin, G. DeWitt Brown's Maxwell, J. Vanderclock's Ford, H. B. Haines' Knox, the two Overlands driven by J. Garlick and Walter Hudson, and R. Beattie's Buick.

The start was made at 10 A. M., with three minutes' headway between the cars, and there was a large gathering to see the contestants off. The route led through Haledon, Pompton, Mountain View, Singac, and Little Falls, and included quite a few stiff hills. The two cars that fell by the wayside were S. Meredith's Corbin and R. W. Bates' Conover, but as the latter's delays were due to punctures, which cost him one hour and twenty minutes, he was not disqualified, time consumed in tire repairs being allowed, as is now the general custom in contests where endurance is the chief factor.

NO DECISION IN SELDEN ROYALTY TANGLE.

TRENTON, N. J., May 18.—Postponed from May 4 to to-day, the hearing of argument pro and con on the petition of the receivers of the defunct Electric Vehicle Company, of Hartford, Conn., for a modified form of contract between the latter concern and the Selden patent licenses, same before the United States Circuit Court here this morning. The court made it plain that consent would not be given to the adoption of the new contract unless at least three-fourths of the members of the Licensed Association would agree to it. Ex-Governor Griggs, who represented the interests of the latter, moved that a referee be appointed, ex-Chancellor McGill being mentioned in this connection, but the motion was denied, the court finally agreeing to take the matter under advisement.

AERONAUT LAMBERT MAY REPLACE LAHM.

PARIS, May 15.—A. B. Lambert, secretary of the Aero Club of St. Louis, has now made eleven balloon ascents from Paris, the last three having been alone, and has qualified for the pilot's license of the French club. It is very probable that Mr. Lambert will act as one of the American pilots in the Gordon-Bennett balloon race, taking the place of Lieutenant Lahm, whose position in the army makes his participation doubtful.

RHODE ISLAND PASSES HORSEPOWER TAX BILL.

PROVIDENCE, R. I., May 18.—After a two-hour discussion, in which a great number of amendments were proposed, and some of them adopted, the House of Representatives ended its second day of talking automobile legislation by passing the amended Senate measure. The act, as it came back from the judiciary committee of the House, contained many suggested amendments. Chief among those that were given serious consideration were the ones fixing the registration fee at 50 cents per horsepower per annum, and that raising the speed limit to 15 miles in closely built-up places, and to 25 miles in the country. These were passed. An attempt was made to make the latter limit 30 miles, but was defeated, as were also several other proposed amendments of doubtful importance. In spite of the fact that considerable competent testimony had been adduced at the hearing to show that a plain tire was apt to do more damage by skidding than one with a chain on it, an amendment was passed prohibiting the use of chains on gravel, macadam or other made roads, not including dirt roads or city pavements, except when there was at least one inch of ice or snow on the ground.

STATUS OF THE LAMP DESIGN LITIGATION.

It has been stated that in the various actions of the Rushmore Dynamo Works, Plainfield, N. J., against various makers and dealers who are alleged to have made and sold lamps in colorable imitation of the Rushmore designs, a preliminary injunction had already been granted. This was true in the case of the Manhattan Storage Company, which was recently convicted of violating the court order and was fined $100. In the case of the complainant against the Badger Brass Manufacturing Company, of New York, which is the most important action in the litigation, the injunction order restraining the defendants has not been actually signed as yet, and will not be until the appeal of the Manhattan Screw and Stamping Works, from a similar restraining order granted against them, has been decided by the Circuit Court of Appeals.

The order of the United States Circuit Court for the Southern District of New York, signed by Judge Lacombe, is as follows:

The defendant having this day presented its petition for appeal to the United States Circuit Court, praying that an appeal might be allowed from the decree or order of preliminary injunction granted by said United States Circuit Court to the Circuit Court of Appeals for the Second Circuit and praying that said appeal might be made a supersedeas, and the Court having duly considered the matter, it is hereby ordered

First—That the appeal be allowed.

Second—That the exhibits be sent to the Circuit Court of Appeals as prayed for in the petition for appeal.

Third—That the order for preliminary injunction aforesaid shall not become effective immediately, but shall be suspended until two days after announcement of decision of Court of Appeals in Rushmore vs. Manhattan Screw and Stamping Works.

Three Tons of Indians on the Packard Truck.

During the stay of the Wild West Show in New York City the noble red men were given a ride on Riverside Drive. The photograph was taken in front of Grant's tomb.

BRIEF ITEMS OF NEWS AND TRADE MISCELLANY

American sizes in Pirelli tires and tubes, with the regulation type American tire valves, may now be had of the various supply houses handling this Italian tire, or of the American branch office of Pirelli & Company, at 296 Broadway, New York.

Town cars of all sizes and types are rapidly being equipped with the Truffault-Hartford shock absorbers to prevent those uncomfortable jounces that result from the city's uneven pavements. Among the cars thus equipped during the past week were John D. Rockefeller's White steamer and Mrs. W. K. Vanderbilt, Jr.'s, Thomas town car.

The Warner Instrument Company, Beloit, Wis., makers of the Warner Auto-Meter, have just brought out an automatic tire-filling air-valve that is claimed to represent a revolutionary development in this field. It is opened by being brought into contact with the tire valve itself and is guaranteed to be positively self-closing. It is of extremely simple and durable construction and is claimed to be capable of filling a four-inch tire in 15 seconds, with 100 pounds pressure on the tank.

The annual meeting of the stockholders of the Monarch Motor Car Company, of Chicago Heights, Ill., was held at the Chicago Automobile Club, May 12. The old directorate, consisting of P. M. Hanney, Evan A. Evans, M. H. Kilgallen and T. A. Quinlan, Jr., was reelected, and R. J. Gunning, F. A. Moody and Rush C. Butler added to the board as new directors. T. A. Quinlan, Jr., was also reelected president and general manager of the company, and J. A. Ward, secretary and treasurer.

"Ready-Flated," the term first used in connection with the Continental tires on removable rims which were used in the recent Briarcliff race, is a registered trademark, and the Continental Caoutchouc Company is issuing a warning to the effect that the use of the name in connection with anything except the Continental product that it was coined to designate will be prosecuted. "Ready-Flated," says J. M. Gilbert, manager of the Continental company, "designates a Continental tire already inflated for use on a Continental rim. This is the type of tire replacement used on nearly half of the cars in the Briarcliff."

H. B. Wild, who has been making ascensions at the White City, Chicago, and other cities, has made arrangements with the Prest-O-Lite Company, Indianapolis, for a complete lighting and signaling outfit. The Prest-O-Lite storage tank to be supplied the aeronaut is made of aluminum, specially treated to give it high tensile strength, and has sufficient capacity to keep the searchlight burning for 20 hours. The lamp is also of aluminum and in addition to its use as a searchlight is fitted for "wig-wag" signaling, by means of shutters, and with red and green shutters for emergency signals. The total weight of the tank and searchlight is only 34 pounds.

It is not often that the vice-president of a republic cannot buy the car of his choice, yet this has been the case with Señor Ramon Corxal, vice-president of Mexico, who ordered a 1908 Packard and was unable to secure one, in spite of the fact that the Packard company is turning out 300 more cars this year than last, all reports of financial depression and other alleged preventatives to the contrary notwithstanding. Señor Coral placed his order with the Compañia Pan Americana de Vehiculos, Mexico City, but their wire arrived too late, every dealer having disposed of his allotment for 1908. It is an incident that forms striking evidence of the success the company has achieved in devoting itself to a single type of car. The entire Packard plant is now busy completing the output so that all the 1908 Packard 30's may be delivered on time.

A new method of construction designed to overcome a most frequent cause of trouble in pneumatic tires has been introduced by the Pennsylvania Rubber Company, Jeannette, Pa. This is the tendency of the tread to blister and separate from the carcass as the result of hard driving, and to overcome this fault mechanical power has been substituted for the usual method of hand wrapping, as it was found that the latter did not produce a uniform tension all round, and that there were apt to be numerous points where the union was imperfect. Another construction improvement is the use of fabric strips of sufficient length to go completely round the tire in place of the usual piecing together made necessary by the ordinary fabric. The new material is being woven especially for the manufacture of Pennsylvania tires, and the showing of the latter in the Briarcliff is said to be largely due to these improvements.

NEW AGENCIES ESTABLISHED.

The Overland is a newcomer to Cleveland, O., where it will be handled by George Baumetz. Later on Mr. Baumetz will add the American and Marion cars to his agency line.

The Maxwell-Briscoe Motor Company has established an agency at Redlands, Cal., with S. F. Boynton & Sons. Rialto and San Bernardino are to be included in the territory covered by the new agency.

The Metropolitan Motor Car Company has just been appointed the Cleveland agent for the Knox Automobile Company, Springfield, Mass., and will handle the Knox line in that city and adjacent territory.

The Lowe-Crawford Company has just been organized in Boston by George H. Lowe and R. S. Crawford, to handle the Crawford car in that territory. Salesrooms have been opened at 173 Huntington avenue.

Way, Mitchell & Company is the title of a new firm organized to represent the Republic tire in Cleveland, O., and the agency establishment is soon to be opened on Euclid avenue opposite the Union Club. L. C. Pellott will act as manager.

Frank Coleman has been appointed agent for the Akron Pneumatic Tire Company, of Akron, O., at Cleveland, O., and will open headquarters at 1922 Euclid avenue. His territory includes the entire State of Ohio, with the exception of the cities of Akron and Cincinnati.

Hopewell Brothers, Cambridge, Mass., manufacturers of automobile fabric supplies and accessories, have withdrawn their agency from the Allen Auto Specialty Company, and have opened a New York branch house of their own. Quarters have been secured at 1900 Broadway, and C. A. Russell, formerly representing the firm in the New England territory, has been placed in charge.

The Regal Motor Car Company, of New York, has just been incorporated with $50,000 paid up capital, to handle the product of the Regal Motor Car Company, of Detroit. A 25-horsepower, four-cylinder, sliding-gear car is being offered at $1,250 in touring car and runabout types, and at $1,800 in town car and taxicab styles. Walter C. Martin, for the past five years metropolitan agent for the Cadillac, will be manager of the new company. Headquarters have been selected in the new Rhinelander building at Sixty-eighth street and Broadway, and the salesrooms are attractively fitted up.

RECENT TRADE REMOVALS.

S. E. Wherritt, sales manager of the Pierce Engine Company, Racine, Wis., who has his headquarters in Chicago, has removed from 1481 to 1507 Michigan avenue.

The Weldon & Bauer Company, successors to the F. E. Boland Company, Newark, N. J., representing the National line in that city, has removed to the new building at 200-202 Halsey street.

The Livingston & Ramsdell Company, agents for the Palmer & Singer cars in Newark, N. J., gave a housewarming on last Wednesday night to celebrate the opening of their new garage at 286 Halsey street.

It looks as if Halsey street would soon develop into the automobile "row" of Newark, N. J. The latest succession is the Linkroum Automobile Company, local agents for the Lozier cars, who have taken up new quarters at No. 239 recently.

PERSONAL TRADE MENTION.

E. B. Gallaher, American manager of the Maja Company, Ltd., who has been abroad in the interests of the Maja car in this country, has sailed from the other side and is expected in New York next week.

T. W. Meachem, president of the New Process Raw Hide Company, Syracuse, N. Y., manufacturers of raw hide and metal pinions and gears, has just been elected president of the Chamber of Commerce of Syracuse.

Harry Fosdick, the genial junior member of the Hol-Tan Company, has seized upon the opportunity presented by a few days' let up in the business of getting Shawmut cars on from the factory at Stoneham, Mass., to take a three-day fishing trip to Lake Winnepesaukee.

Walter S. Austin, of the Austin Automobile Company, Grand Rapids, Mich., has been in the East recently looking round the agency situation and has returned to his home town, much pleased with the contracts he took back with him. It was not exactly an agency contract, but something in the matrimonial line, as he was married to Miss Elsie N. Chesebrough at Newton, Mass., May 12.

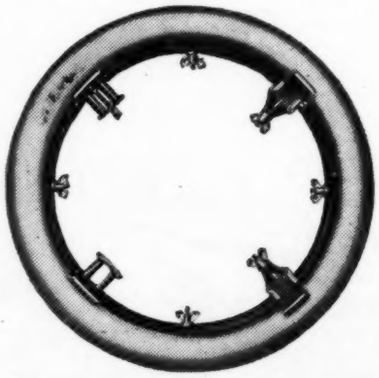
Alfred Reeves, general manager of the American Motor Car Manufacturers' Association, left early in the week, on his regular tour of inspection of the factories of members of the association, and incidentally to make some preliminary arrangements for the Chicago show, which will be managed by the makers themselves this year, the same plan being carried out in the case of the Grand Central Palace show in New York.

INFORMATION FOR AUTO USERS

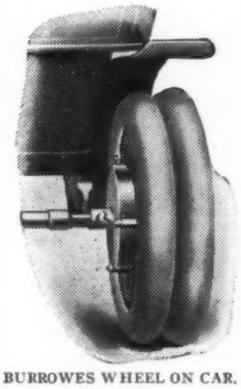
Radio Batteries.—This is a new accumulator, specially designed for automobile ignition service, which represents the result of more than ten years' experience in the manufacture of storage batteries. It is made by the Radio Battery Company, whose factory and repair shop are located at 433 West Forty-second street, New York City. The makers state that they have found the chief source of trouble in storage batteries to be the manner of constructing the plates and the lack of proper provision for retaining the electrolyte in the jars. To overcome these faults the containing jar of the Radio battery is of the flanged compartment type and is made from a new insulating compound that is acid proof. The cover is of the same material, made in one piece with the terminal bases and vent tubes, and is provided with a special ribbed edge. Pure para rubber washers hermetically seal the cells, while the gas ventilating caps screw into the vent tubes with a soft rubber washer. They are of the ball valve type. Cover clamps of enameled and noncorrosive steel are used and the handles are of the same material.

THREE-CELL SET, RADIO BATTERY.

Burrowes Emergency Wheel.—E. T. Burrowes & Company, Portland, Me., have recently placed on the market an improved type of spare wheel which presents several new features. It is made to take the different sizes of tires in use and will be supplied for either clincher or quick detachable types. Where the front and rear are different sizes, special spare wheels to fit either will be furnished. To attach the new Burrowes spare wheel it is only necessary to hook one of the rigid clamps, or anchor posts, over the rim of the car wheel where it rests on the ground, and then roll the car on the clamp. Next the other rigid clamp is hooked over the rim and the two screw clamps are tightened until the wheel is held firmly in place. As a precaution against creeping, straps are passed round two of the clamps and the adjacent spokes. These straps may be attached to either the anchor posts or the adjustable screw clamps in such a way that they cannot fall off, even when loose. The valve stem is protected by the anchor post on the rim. The Burrowes spare wheel is very rigid and does not affect the running or steering of the car. The rims are inspected and approved by the Association of Automobile Tire Manufacturers.



CONSTRUCTION OF BURROWES SPARE WHEEL.



BURROWES WHEEL ON CAR.

Winship Auto Trunks.—The name of Winship has been associated with high-grade trunks and other travelers' requisites for more than half a century past, W. Winship, 71 Summer street, Boston, Mass., having made an enviable reputation for quality in this line. In catering to the wants of the autoist he has brought out a very extensive range of trunks to fit all kinds of cars and on all kinds of places on the car, in addition to an assortment of touring equipment of other kinds, such as special pockets of genuine or imitation leather to fasten on the back of the forward seats, imported lunch baskets in great variety, lunch trunks, emergency kits, ice trunks and ice baskets, buffet trunks and the like.

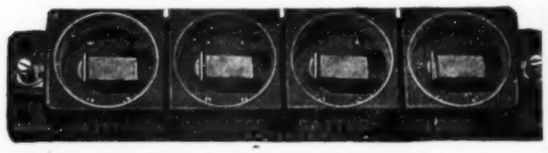
TYPES OF WINSHIP AUTO TRUNKS.

"Buckeye" Cleanser.—"No one who has ever used Buckeye Cleanser has ever accused it of being like the ordinary kind," say the makers, the J. P. Davies Company, Dayton, O., manufacturers of laundry and textile soaps and successors to the Buckeye Soap Company. It is a soap made entirely of pure vegetable oils and is prepared especially for cleansing highly polished and painted surfaces. Being perfectly free from alkali or gritty substances, it does not scratch or leave the cleaned surfaces with a smoky appearance, but produces a bright shine on a polished surface like a new coat of varnish. It is put up in five and ten-pound cans, twenty-five-pound pails and barrels or half barrels. Samples will be forwarded on request.

Patterson Wireless Battery Holder.—A new and decidedly radical improvement in the manner of connecting up dry cells is embodied in an invention which is just being placed on the market by Stanley & Patterson, 23 Murray-27 Warren streets, New York. In fact, it is such a simple, logical and sensible way of connecting up a battery of dry cells that the wonder is no one thought of it before, for binding posts and connecting wires have certainly furnished their quota of ignition troubles to the autoist. The new device consists of a base holding several sockets into which the several cells comprising the battery are intended to be screwed home until they make contact with the "automatic bridge"—a patented form of connection which closes the circuit between the two adjoining cells automatically the moment a cell is removed from one of the receptacles. Thus a dead cell may be removed at any time without interrupting the ignition current, and if a new cell be not available at the moment no change in the connections is necessary. When the new cell is procured it is simply screwed into place. This permits of taking out any cell that happens to be exhausted, without disturbing the rest and with a minimum of trouble.

PATTERSON WIRELESS BATTERY HOLDER IN CASE.

The Patterson "Wireless" battery holders are made to accommodate 6, 8, 10, 12 and 16 cells of battery, but any combination of cells is made possible by means of the "automatic bridge." The Patterson type dry cells intended to be used with these holders do not differ from the standard dry cells, except that at the top the zinc containing case has a deep thread rolled into it, while the carbon has a flat butt terminal. The complete holder is enclosed in a waterproof cabinet and the latter is provided with a false bottom, so that in case the Patterson cells are not procurable on a long tour this can be lifted out and the usual type employed. The company will forward its Bulletin "C," describing the different models, on request.



WIRELESS CELL SOCKETS.

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